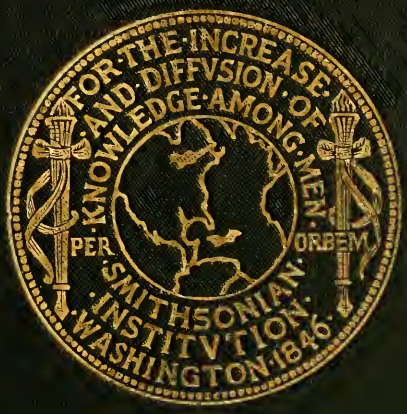
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WASHINGTON·1846·

Theo. Gill, Dec '80

Department of the Interior:

U. S. NATIONAL MUSEUM.

BULLETIN

OF THE

UNITED STATES NATIONAL MUSEUM.

No. 23.

BIBLIOGRAPHIES OF AMERICAN NATURALISTS.—
II. THE PUBLISHED WRITINGS OF ISAAC LEA, LL.D.

BY

NEWTON PRATT SCUDDER.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1885.

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U. S. NATIONAL MUSEUM.

— Serial Number 29 —

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PUBLISHED UNDER THE DIRECTION OF THE SMITHSONIAN INSTITUTION.

WASHINGTON:
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1885.

ADVERTISEMENT.

This work (Bulletin No. 23) is the twenty-ninth of a series of papers intended to illustrate the collections of natural history and ethnology belonging to the United States, and constituting the National Museum, of which the Smithsonian Institution was placed in charge by the act of Congress of August 10, 1846.

It has been prepared at the request of the Institution, and printed by authority of the honorable Secretary of the Interior.

The publications of the National Museum consist of two series—the Bulletins, of which this is No. 23, in continuous series, and the Proceedings, of which the eighth volume is now in press.

The volumes of Proceedings are printed, signature by signature, each issue having its own date, and a small edition of each signature is distributed to libraries promptly after its publication.

From time to time the publications of the Museum which have been issued separately are combined together and issued as volumes of the Miscellaneous Collections. These are struck off from the stereotype plates from which the first edition was printed, and in this form are distributed by the Smithsonian Institution to libraries and scientific societies throughout the world. Volume 13 of these collections includes Bulletins 1 to 10 inclusive; volume 19, volumes 1 and 2 of the Proceedings; volume 22, volumes 3 and 4 of the Procedings; and volume 23, Bulletins 11 to 15 inclusive.

Full lists of the publications of the Museum may be found in the current catalogues of the publications of the Smithsonian Institution.

SPENCER F. BAIRD,
Secretary of the Smithsonian Institution.

SMITHSONIAN INSTITUTION,
Washington, September 20, 1885.

II.

THE PUBLISHED WRITINGS

OF

ISAAC LEA, LL. D.,

BY

NEWTON PRATT SCUDDER.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1885.

PREFATORY NOTE.

The second of the series of special bibliographies, which was begun in 1883 by the publication of a catalogue of the published writings of Spencer Fullerton Baird (Bulletin 20, U. S. Nat. Mus.), is now presented.

Dr. Lea has contributed largely of his collections to the National Museum, and it is therefore eminently fitting that his writings, based upon this and similar material, should be published under Government auspices.

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Isaac Lea L.L.D.

BIOGRAPHICAL SKETCH OF ISAAC LEA, LL. D.

CHAPTER I.

YOUTH AND MANHOOD.—EARLY STUDIES IN NATURAL HISTORY.

The subject of this biography was born in Wilmington, Del., March 4, 1792. His ancestors, John and Hannah Lea, came from Gloucestershire, in England, with William Penn on his second visit, and "were a couple of noted and valuable preachers." His parents were members of the "Society of Friends," and this gave him a birthright in that society.

His father, James Lea, was a wholesale merchant. Isaac was the fifth son, and being intended by his parents for the medical profession, was sent to the academy at Wilmington to be instructed in the classics. But at the age of fifteen years a change of plans seemed desirable, and he went to Philadelphia to engage in the mercantile business in the wholesale and importing house of his eldest brother. It was at this time that he became intimate with the family of the late Professor Vanuxem, whose father was an eminent merchant and much interested in the public affairs of the city. Isaac's early love of nature was inherited from his mother, who was particularly fond of botany, and induced all her children to occupy themselves with the study of plants. Young Vanuxem also had a strong love for natural history, and the two friends in their frequent walks began collecting stones and examining the rocks in the neighborhood of the city. This soon grew into a desire to know the composition of the rocks, as they had no knowledge of any collections or scientific works. Not long after this they found that a cabinet of minerals was in possession of the late Dr. Adam Seybert, whose acquaintance they made. This was the only collection then in Philadelphia, and was subsequently sold to the Academy of Natural Sciences, which was formed in 1812.

In 1814 the two friends joined a volunteer rifle company which offered its services to the governor and held itself in readiness to march at any time. The English army were then in possession of Washington and the need seemed urgent, but in the following autumn the governor disbanded the company, so that they were never called into actual service. For this volunteering the subject of this sketch lost his birthright in the Friends' Society.

Before this time there were no public lectures on natural history, and the two young friends continued to grope their way without instruction or the help of text-books. While they had but little time to ramble through the country—both being clerks in a mercantile establishment—still their puny collections had great interest to them. One of their extended excursions was to examine the coal mines then opened above Wilkes Barre, where they found the slates contained mollusca, which Mr. Lea some forty years afterward described in the Journal of the Academy of Natural Sciences. On their return they walked from there over the Pocono Mountain through the Wind Gap, where Mr. Lea, found a trilobite, the first they had ever seen, and thence down the Delaware River, observing the strata all the way.

They finally learned of the Academy of Natural Sciences, which had been in existence about three years, and in 1815 they were both elected members on the same evening. From that time they became active members of the young society, learning from the older members, and rendering assistance by bringing specimens which they had collected. Mr. Lea remembers that Mr. Say founded his genus *Alasmodonta* on a single valve which he himself had picked up on the river shore at Chilicothe, Ohio, and which he carried from that place to Philadelphia in his saddle-bags.

In 1816 Mr. Vanuxem went to Paris to study at the School of Mines, and remained there nearly three years under the great masters of science of that school. On his return he was offered the professorship of chemistry in the College of South Carolina at Columbia.

Afterwards he was appointed one of the four geologists of the great geological survey of the State of New York. During all this period of over forty years the closest friendship existed between the two friends until the death of Mr. Vanuxem, in 1848.

In 1817 Mr. Lea published in the Journal of the Academy of Natural Sciences his first paper, entitled "An account of the minerals at present known to exist in the vicinity of Philadelphia," it being the result of several years of close examination.

Early in 1818 the late Professor Silliman issued the prospectus of the American Journal of Science, which, fortunately for the science of this country, has continued to this day. In this prospectus he says: "It will be a leading object of this journal to illustrate American natural history, and especially mineralogy and geology." Mr. Lea, pleased with the promises to this prospectus, procured fourteen subscribers among the prominent members of the academy, and sent the names to Professor Silliman, who, years afterwards, told him that "this was the turning point of the scheme," and that in receiving such encouragement from a person with whom he had no personal acquaintance he was sure the journal would be successful. He requested Mr. Lea to contribute articles, and sometimes consulted him about papers offered, and in a letter the following November he informed him that "the edition of No. 1 is

already gone, except a very few copies; we printed one thousand, and shall print fifteen hundred of No. 2, and shall soon reprint No. 1." *

In the early numbers of the journal Mr. Lea contributed the following papers: "Notice of a singular impression in sandstone," "On hibernation," "On earthquakes, their causes and effects," "On the pleasure and advantage of the study of natural history," "Notice of two halos with Parhelia." In 1828 he published an article "On the Northwest Passage," in the American Quarterly Review, in which he advanced the opinion that if the passage was ever made it must be from west to east, as the current was up through Bering Strait, as reported by Captain Cook, and down through Davis Straits, as well known to all navigators. In this paper he gave an account of all the early navigators to the northern seas. Subsequently, in 1852, this theory proved to be correct, as was shown by Captain McClure's voyage.

In 1821 Mr. Lea was united in marriage to Miss Frances A. Carey, the daughter of Mathew Carey, the well-known publisher and writer on political economy, and became a member of the firm of M. Carey & Sons, which at that time was the most extensive publishing house in the United States. He retired from the successive firms in 1851. Few men have been more blessed in their married life, which embraced a period of fifty-two years, when the death of Mrs. Lea occurred, leaving her greatly afflicted husband with two sons and one daughter.

Finding that a knowledge of geology rendered an acquaintance of the mollusca necessary, Mr. Lea imported a large collection of shells from China, with the view of studying Lamarck's genera. This led him to study them thoroughly, and eventually it became an all-absorbing pursuit, particularly the study of fresh-water and land shells.

Major Long, of the Engineer Corps of the United States, was engaged in 1825 to deepen the channel of the Ohio River below Louisville, where a sand-bar obstructed navigation. Here he found many species of the genus *Unio*, which he collected and sent to the Academy of Natural Sciences, of which he was a member. They were splendid specimens; some were new to the members, and of course rare, valuable, and of exceeding great interest.

Mr. Lea's brother Thomas was at this time closing up his mercantile business at Cincinnati, and was in Philadelphia. He promised his brother that he would "look after the shells in his vicinity," adding that he "was sure none of such beauty were ever found in the Ohio." The result of his collecting was the shipment of a small barrel of shells—many of rare beauty, and six of them new species. The description of these formed the first of that series of papers which was Mr. Lea's chief study through a long life. His brother continued collecting from season to season until his death, which took place in 1844. Mr. Lea's calling the attention of his brother to the shells of the

* Mr. Lea believes he is the only surviving subscriber to this valuable journal from its beginning.

river led him to the collection of the land shells, of which he made a thorough study, and this brought him to observe the plants, and botany became eventually his principal study, and resulted in the publication of "The Plants of Cincinnati," in which was included all the cryptogams. This study changed the course of his life, which thereafter was given up to natural history. He said he "did not know what it was to live on God's earth before."

These collections of *Unionidæ*, &c., with others from friends elsewhere in the United States, enabled Mr. Lea to open correspondence in all the large cities of Europe, putting him in communication with most of the prominent naturalists of the time, and his exchanges brought him the choicest and rarest specimens.

In 1827 he published his first conchological paper, "Description of six new species of the genus *Unio*." It was presented to the American Philosophical Society and published in their Transactions. It consisted of descriptions of the six new species, and he did not then know that he should ever describe another species, so little was the scientific world aware of the vast number of species which inhabited the numerous rivers, lakes, and small streams of the United States; indeed, proving that this country was literally the home of the *Unionidæ*.

In 1828 Mr. Lea was elected a member of the American Philosophical Society and soon became active in promoting its interests. He was made chairman of the publication and finance committees, which office he held until his visit to Europe in 1852, at which time he sent in his resignation.

At this time also (1828) he became a member of the "Wistar Association," so well known throughout the country. It consisted only of members of the American Philosophical Society and a single negative vote was sufficient to prevent the election of a proposed member. It was a rule also that no person should know that his name had been proposed. This association was formed in 1818 after Dr. Wistar's death. He was president of the American Philosophical Society, and it had been his custom to receive his learned friends at his residence on Saturday evenings. After his death the gentlemen who had enjoyed these gatherings for so many years determined to form an association and gave it his honored name. The following-named gentlemen composed its membership the first year: Judge Tilghman, Professor Patterson, P. S. Du Ponceau, John Vaughn, Reuben Haines, Robert Walsh, jr., Z. Collins, Dr. James, and Dr. Robert Hare. In 1821 the number was increased by adding the names of Judge Hopkinson, William Meredith, Dr. Chapman, Mathew Carey, Nicholas Biddle, Dr. Dewees, and Langdon Cheves. In 1824 Horace Binney and John Sergeant were added to the list. John Vaughn was appointed dean, which position he filled until his death, in 1841, when Mr. Lea was appointed to fill the vacancy, which position was held by him until the association was dissolved by the war of secession in the year 1861.

During the period from 1825 to 1832 Mr. Lea's correspondence was very large, both at home and abroad, with various scientific friends in the same department of science. Among these were Judge William Cooper, Dr. Kirtland, Dr. Hildreth, and Drs. Ward and Jay, Major Le Conte, Judge Tappan, and others in Europe, who earnestly solicited him to undertake the whole subject of classifying the synonymy of the *Unionidæ* of the United States, which was at that time in almost inextricable confusion. He did not attempt this, however, until the year 1836, when his first edition of "A Synopsis of the Family of Naïades" was issued, which consisted of a thin octavo of 59 pages. This volume was augmented in various editions until it reached a fourth edition, which was published in 1870 in quarto, consisting of 214 pages.

CHAPTER II.

VISIT TO EUROPE.—MEETING DISTINGUISHED SCIENTISTS IN ENGLAND, FRANCE, AND SWITZERLAND.

In the spring of 1832 Mr. Lea went to Europe with his family, where he met the prominent men of science, and opportunity was afforded him of examining the best collections of the time. He was present at the second meeting of the British Association, which in that year was held at Oxford. He had met Dr. Buckland previously, who invited him to be present at the meeting. In London he had been present at a meeting of the Geological Society, where he met most of the leading geologists of Great Britain, who were discussing an important point in geology. Previous to going to Oxford Mr. Lea went to the north of England and on returning through the middle counties he traveled with William Smith, who was then on his way to Oxford to receive the Copley medal which was voted him by the British Association. Mr. Smith was called "the Father of British Geology" on account of his having been the first geologist in England who attempted to classify the rocks of that country by their characteristic fossils, and he was said to have preceded MM. Cuvier and Brongniart in that important step which gave such an impulse to this great branch of scientific knowledge.

While at Oxford Mr. Lea made the acquaintance of many distinguished scientists, and was invited by Dr. Buckland into the "robing room," where four of Britain's most eminent men, Brown, Faraday,* Dalton,† and Brewster, were to put on scarlet robes before going into the theater, where the degree of LL. D. was to be conferred upon them. It was interesting to see the Quaker Dalton, the discoverer of the atomic theory, robed and his white head covered with a velvet cap. When the vice-chancellor mentioned each name there was much applause, but when the name of Dalton was given the applause was loud, long, and reiterated. The other distinguished men to whom Mr. Lea was introduced at this meeting were Brunel, Conybeare, Davies Gilbert, Dr. McBride and others whom he had previously met in London. At the observatory he was introduced to Sir David Brewster and Rigo, the astronomer. At the geological meeting he listened to a most interesting discussion upon the "injection of veins," between the Rev. Mr.

* Mr. Lea had a letter to Professor Faraday from Professor Silliman. The former was then delivering a course of lectures in London, to which he invited him.

† Mr. Lea had previously visited Dr. Dalton in his laboratory at Manchester, where he was introduced by Dr. Henry.

Sedgwick and Mr. Moss. Subsequently, in London, Mr. Lea met Dr. Buckland, Mr. Babbage, and Mr. Broderip, at Mr. Stokes's, at that time secretary of the Geological Society who received his friends at breakfast on Sunday morning. Dr. Buckland inquired of Mr. Lea respecting the quantity of coal in the United States, stating that *he* "believed we had very little," and that he had his information from a very reliable source. Mr. Lea, thinking he knew from whom he had received this information, took great pains to disabuse him of this false impression. A large map of the United States was brought from the library of Mr. Stokes and laid upon the floor, and the canon of Christ Church with Mr. Lea spent several hours in the closest examination of it, Dr. Buckland meanwhile filling sheet after sheet with notes. At last he took his leave to meet an engagement, assuring Mr. Lea that "*England had enough to supply the United States when its supply should fail*," to which Mr. Lea replied that the quantity of anthracite and bituminous coal was almost unlimited in North America, and that when he returned to his home he would send him a map of the country, showing the extent of the coal fields, together with a copy of the section of anthracite of the Pottsville basin, which he had in manuscript. This he subsequently did, and Dr. Buckland was so thoroughly convinced of the truth of Mr. Lea's information that he laid the matter before the next meeting of the British Association, with the letter and maps, assuring the members that "when the coal fields of England should be exhausted there would be plenty in the United States to supply their need." He did not anticipate then that the great consumption and exportation of coal was likely to exhaust England in one hundred years, as the late report to Parliament by a committee of sixteen experts has since demonstrated. It must be borne in mind that Dr. Buckland had stated "that England's prosperity is based upon her coal mines; that upon their exhaustion she would return to her original barbarism." He was not then aware that in many other parts of the world there existed inexhaustible quantities from which she could draw her supplies.

While in London Mr. Lea frequently met the most eminent scientific men. Among them was Mr. Vigors, the ornithologist, who was a candidate for a seat in Parliament for the county in which he was born. He inquired much about the political institutions of the United States. In speaking of the meeting of the British Association at Oxford, he stated a circumstance which Mr. Lea had not heard while there. The principal of Lincoln College, when Faraday's experiment of the magnetic spark was shown, asked him if that was "his invention." "It is my *discovery*," said Faraday. "Well, I am sorry to see it," said the principal, "for it is only giving another instrument to enable the bad part of our population to set fire to our barns and houses in the country."

During his stay in London Mr. Lea had the pleasure of dining at a friend's with the Rev. Sydney Smith, Miss Aiken, and a few other nota-

bles. He was also present, by special invitation, at the meeting of twenty-five lords who met to discuss the subject of the charter of the Birmingham and London Railroad, where he heard the celebrated barrister, Mr. Follet, plead for the charter of the railroad, which was refused as a result of their report.*

Mr. Lea was frequently at the British Museum, always receiving a warm welcome from Dr. Gray and the other officials. He presented to the museum many rare specimens.

At a meeting of the Royal Society at Somerset House, at which Mr. Lea was present, Dr. Buckland presided. A paper was read on the first discoveries of the spots in the sun. After the session most of the members retired to the tea room. Mr. Lea was there introduced to Dr. Bostock, the author of "Physiology," &c., and a number of other distinguished members.

The next day he called upon Mr. Claxton, the American mechanist who made the instruments by which Faraday showed the spark made by the magnet, which was creating great interest at that time in London. During the season the Duke of Sussex, president of the Royal Society, was giving *soirées* at Kensington Palace, to which Mr. Lea was invited and where he met many of the *élite* of science of that city. Mr. Murchison, president of the Geological Society, also gave *soirées* every other week, and at these gatherings Mr. Lea had the pleasure of meeting with Sedgwick, Buckland, Broderip, Babbage, Lyell, De la Bêche, Mrs. Somerville, and others.

At the request of Dr. Gray he went over the collection of *Unionidæ*, in the British Museum, arranged and named them correctly, adding some new species from the United States.

Mr. Lea was invited to dine with the club of the Royal Society, Mr. Marsden presiding. Here he met with Mr. Daniels, the chemist, Dr. Roget, Mr. Bailey, the astronomer, and Mr. Children, secretary of the society.

Subsequently he visited Paris, where he had numerous correspondents. J. Fenimore Cooper had written to him that Paris was nearly free from the cholera, and that it was safe to visit it. On his arrival there with his family shortly after, he found that two hundred and twenty-five persons were daily carried off with this frightful pestilence. Both Mr. Cooper and Mr. Wells, the American banker, advised him to remain, which he did, and in a few days it entirely disappeared. Mr. Wells and Mr. Cooper had established a cholera hospital, where during the epidemic eight hundred patients had been received. Mr. Lea and his family, consisting of himself, wife, and his two sons, escaped with a slight attack of what was called the "cholerine."

Mr. Cooper and Mr. Lea had planned with their families to go up the Rhine and be in Switzerland together, but as they could not agree upon

* The expense for this application to Parliament was £60,000. The following year they obtained the charter.

a time, Mr. Lea went on and was joined by Mr. Cooper in the autumn. In a letter from Vevay, dated May 26, 1832, stating the time he would leave there, Mr. Cooper wrote as follows:

"The comparison between Europe and America is not easily made. In many things which are the inevitable consequence of time and a dense population, this quarter of the world has the advantage, but the balance is, in my opinion, immensely in our favor. In moral civilization and in common sense, we are a century in advance of the best of them. The time will come when our notions will come in fashion, and, allowing for the omissions that are part of the plan, the book will become authority."*
"I have only to develop its opinions and support what I have said by a citation of facts and reasons that are at my fingers' end, to give it vogue in six months. But I have higher views. * * * It is my intention to return home in the spring, or rather in June next. The age of my children requires this of me, for no consideration would induce me to establish one of them in Europe."

Soon after Mr. Lea's arrival in Paris he called to see General Bernard, with whom he had been well acquainted in the United States, during his several years' service in the Army as chief of the Engineer Corps. At this time he was the war minister of Louis Philippe. From him Mr. Lea learned many things of the workings of the Government not generally understood. Before leaving Paris in the autumn he addressed the following note to Mr. Lea:

PARIS, *October* 12, 1832.

DEAR SIR: I intended to call on you and present to yourself and family my respects, but, being under pressure of business, I could not find one moment to do it.

I have received a letter, in which General La Fayette complains of your having not yet visted him at La Grange. He insists, and requests me that I should inform you, that it will be for him a great pleasure to receive you at La Grange before your departure for America.

Make my best compliments acceptable to Mrs. Lea, and be so kind as to receive the expression of my best respects and of my distinguished consideration.

Your devoted servant,

BERNARD.

Mr. Lea had been introduced to La Fayette on his visit to the United States, and had called at his residence in Paris, but he had gone to La Grange.

He also called on Baron Ferussac, the best authority in Paris on terrestrial and fluviatile mollusca. He was received with great politeness, and they talked over their favorite subject, the *Unionidæ*, for two hours. The baron was at that time engaged in preparing his great work on the *Unionidæ*, embracing those known in all countries. It was to be folio size, and equal in elegance to his work on the *Helices*. He showed Mr. Lea some of the drawings, which were very fine. The latter had published his first two memoirs, which Baron Ferussac had received, and he complimented Mr. Lea by saying that he could not go on with his work until he (Mr. Lea) had finished his memoirs. The subject was continued by Mr. Lea, who published thirteen quarto volumes. The

* The book referred to was a work which Mr. Cooper was preparing, which was published by Mr. Lea's house.

last volume was published in 1874, and still the American *Unionidæ* were not exhausted. At that time no writer in Europe had any idea of the extent of the species in the United States, as the *Unionidæ* are more developed in this country than elsewhere. The baron's cabinet was rich in valuable specimens. It contained the *Unionidæ* which Spix and Von Martius brought from Brazil, and others from Syria, Turkey, and Egypt. Mr. Lea spent two hours of eight consecutive mornings going over the collection, which he rearranged, cutting down the species and forming synonyms almost without end.

During Mr. Lea's visit in London the announcement of Cuvier's death was made. His loss to science was universally lamented. Mr. Lea had brought from America a letter and some books from Professor Silliman for him. He called at Cuvier's late residence, intending to leave them, but his daughter requested to see him. She was, of course, in great grief, and stated that her mother was prostrated by their great loss. She, however, wished him to see her father's library, and he spent some time looking it over. Among the many fine works it contained she pointed out Poli's great work on the Mollusca of the Mediterranean,* published at the expense of the King of Naples, certainly the most important work on the mollusca.†

While in Paris Mr. Lea accompanied Baron Ferussac to a meeting of the Institute, and was there introduced to the president, La Croix, the mathematician, Latreille, Blainville, and Frederick Cuvier. There were about one hundred members present. Biot, St. Hilaire, and others were pointed out. By appointment Mr. Lea met Blainville, Ferussac, and other scientists at the Jardin des Plantes to arrange and name all the *Unionidæ* of the collection, which he did, adding fourteen species.

Leaving Paris he went to Belgium, and from thence ascended the Rhine into Switzerland. At Berne he called on Professor Studer the elder, who was then blind. A letter from Baron Ferussac was his introduction. The professor needed no letter. He was extremely kind, and, after spending two hours over his collection, which at that date was the best in Switzerland, he presented to Mr. Lea the last copy in his possession of his work on the land and fresh-water shells of that country, complimenting him on the papers which he had written. His son, who had succeeded him in the university, was present, and offered his services to Mr. Lea during his sojourn in Berne.

At Geneva Mr. Lea called on De Candolle, to whom he had a letter from Baron Ferussac. Unfortunately he was out of the city. Mr. Lea, however, had previously corresponded with De Luc, whom he saw and who took him to a meeting of the Société de Physique et d'Histoire Naturelle, where he was made acquainted with the leading members.

* A few years afterward Mr. Lea procured this work through Prince Charles Buonaparte.

† M. Blainville showed to Mr. Lea with great pride the wax models of these mollusca, which Napoleon had brought to Paris after he had subdued the kingdom of Naples.

From Geneva he went to Chamouny and visited the *Mer de glace*, penetrating some distance under the ice. Here he saw the immense blocks of granite brought from the upper part of Mount Blanc, forming the lateral moraine, and strewed over the plains below, following the course of the Arveyron, was formed a terminal moraine, which was then receding. Higher up the mountain continual avalanches were heard. Returning to Paris he found that Baron Ferussac had made a catalogue of the *Unionidæ* during his absence on Mr. Lea's plan. In the mean time Mr. Lea had received his boxes of shells from America and he carried some of the finest to the Baron, who expressed himself greatly delighted. He had not seen anything like them before.* Wishing to see the Duc de Rivoli's collection, which contained all those of Lamarck, he called upon the duke, who unfortunately was absent from the city, but his curator, M. Kiener, had been instructed to give Mr. Lea access to the collection of *Unionidæ* whenever he should call. Mr. Lea took notes of them all, and thus was able to define the whole of Lamarck's species in his subsequent memoir. He visited the Institute accompanied by M. Blainville, who carried with him a copy of Mr. Lea's Memoirs on the *Unionidæ*, which he presented to the Institute, paying many compliments to the author on his production, who, on this occasion, had the pleasure of meeting M. Audouin, M. Latreille; and others. M. La Croix presided, and there were about two hundred persons present, and the meeting presented a remarkable assemblage of learned men, very striking to a stranger.

Mr. Lea had letters to Brongniart, who was then director at Sèvres, and one of the great geologists of France. He invited him to a dinner, where he met about a dozen gentlemen who were among the distinguished *savants* of Paris: M. Jaumard, M. Audouin, M. Caillaud, the traveler, and the director of the Musée Egyptienne, M. Dumas, and M. Gay, who had just returned from the expedition to Brazil and Chili, who afterwards published so many volumes on the natural history of South America. At the dinner Mr. Lea sat beside M. Gay, who was particularly polite, and invited him to call upon him the following day. Accepting the invitation, Mr. Lea was surprised to find that M. Gay had brought out all the mollusca which he had collected in his travels, and desired him to select a specimen of each, "first for the Musée, and then for yourself." This was an unexpected kindness from so distinguished a traveler, which Mr. Lea gratefully accepted, thus securing some rare and fine specimens for his own cabinet.

While in Paris he called on M. Duclos, the author of a splendid work on the genus *Oliva*, &c. His collection of *Oliva*, *Purpura*, and *Columbella* was truly magnificent, and showed what persevering effort in one direction will accomplish. It was arranged in a manner to exhibit all ages and varieties which could be obtained. M. Duclos thought that

*Baron Ferussac's death occurred about two years afterward.

generally there is a black and white variety of each species of *Oliva* with the intermediate shades, and many of his specimens most curiously proved this.

Mr. Lea, by appointment, called on the Duc de Rivoli (Massena) to see his magnificent collection, which was said to have cost him one hundred thousand francs. It consisted of Lamarck's and some others, besides fine and rare specimens which he had purchased.

General Bernard, the minister of war, called on Mr. Lea, and gave him much information respecting the private life of Louis Philippe; in fact he said that the King "regretted the private station he had left," and added "that some things had improved in France, but that only one person in twenty could read in that country."

While in Paris Mr. Lea frequently was with M. Deshayes, who was certainly better acquainted with mollusca than any other person in France. He found that Deshayes had enemies, but his publications, and his subsequently obtaining the chair of Lamarck in the Muséè, were evidences of his great merit. He was most kind and generous to Mr. Lea, giving him rare specimens and some of his manuscript notes which were of great value to him. At his house he met Admiral Duperrey (who made a scientific voyage round the world), M. Légris and Dr. Gray, of the British Museum.

CHAPTER III.

SCIENTIFIC RESEARCHES.—RETIREMENT FROM BUSINESS.—SECOND VISIT TO EUROPE.

Mr. Lea returned from Europe in November, 1832, having enjoyed an almost unequaled opportunity of meeting the distinguished scientific *savants* of the times, men whose names will be honored as long as scientific research shall endure. He had found that the few papers which he had published on American mollusca had created an interest far beyond his expectation, and that the doors of the naturalists were open to him wherever he wished to enter. He was earnestly solicited to "go on with the investigations commenced," being told that "no naturalist in America or Europe had the advantages possessed by him; that they were unrivaled." "The admirable fidelity of all your descriptions so evidently from life and so full of acute discrimination." But to his great astonishment he found that advantage had been taken of his absence, which had prevented him from securing his share of the collection of Tertiary fossils of Alabama, made by Dr. Gates, who was sent to the South by subscriptions made in Philadelphia and New York; and that the whole of the Philadelphia quota had been placed in the hands of Mr. Conrad, who was not one of the subscribers. Mr. Lea was not made acquainted with the fact until he saw the first numbers of Mr. Conrad's published descriptions.

In 1829, and for several years subsequently, Mr. Lea had received all these species from his friend, Judge Tait, ex-governor of Alabama, but at that time he was too much occupied with his elaborate work upon the *Unionidæ* to undertake the description of them. When, however, he discovered that his own property had been put into Mr. Conrad's hands, he went vigorously to work on those already in his possession, and on the 27th of August, 1833, presented his paper complete to the Academy of Natural Sciences of Philadelphia. It contained two hundred and twenty-one species, and the figures were so admirably executed by Mr. Drayton, the artist, that they were said to be almost equal to the originals. In regard to this work, Mr. Murchison said, in a letlet to the author acknowledging its receipt:

> Accept my very best thanks for your handsome "Contributions to Geology." If every good conchologist like yourself would thus vigorously set to work, we might in some few years have collected full material for our superstructure. I like the coloring of your fossil plates very much, and altogether the work has quite the stamp of being issued by one of the best workshops of Europe.

The late Sir Charles Lyell, Bart., thus wrote to him in November, 1834:

I take the opportunity of adding to the thanks of the Geological Society, which I am instructed to forward officially, my own acknowledgment of your very handsome present of your splendid work on the Genus *Unio*, as also for the manner in which you have endeavored to give publicity in your writings to some of my geological views respecting the Tertiary strata.

Mr. Lea, at this time being engaged in a large and prosperous business, had no leisure in the day-time to pursue his studies in natural history. He was blessed with excellent health, and could devote from three to five hours at night to writing his papers.

He found on his return from Europe many boxes of specimens from various parts of the country awaiting his inspection, and also a very large correspondence.

His first production after this was his "Contributions to Geology," it being a description of the Tertiary shells of Alabama. This was followed by a continuation of his "Observation on the Naïades, &c."

In 1836, he published his "Synopsis of the Family Naïades," a small octavo volume which in subsequent years was followed by a second, third, and fourth edition, the last being enlarged tenfold in extent from the first. The second, third, and fourth were in quarto. The first edition settled satisfactorily to most conchologists the synonymy of the family, and was received almost unanimously as giving the true names and synonymy of the species. He was congratulated by many zoologists, at home and abroad, upon settling the vexed question. Dr. Kirtland, Senator Tappan, Dr. Ward, Dr. Hildreth, Mr. Buchanan of the West, Judge Cooper, Dr. Jay, Mr. Haines, Dr. Budd, and many others of the East, wrote him congratulatory letters upon the occasion. Prince Charles Buonaparte, than whom there was no higher authority in Europe, said in his letter:

I have been admiring your synoptical table, and should like to see all parts of zoology treated in the same manner.

And Mrs. Corrie,* the wife of the president of the Philosophical Society of Birmingham, in one of her numerous letters, said:

"I hope the high reputation which these contributions have established, will stimulate you to further researches. You possess advantages unrivaled by those of any other naturalist in your own hemisphere or ours. I trust, my dear sir, that you will have health and time to exercise them fully for the universal benefit of science."

Dr. Kirtland, who was appointed zoologist for the State of Ohio, constantly consulted Mr. Lea in regard to the mollusca of that State, and in March, 1836, he writes that "the Western naturalists have come to the determination not to adopt the species of Rafinesque, as given by Mr. Conrad, but to adopt yours."

Mr. Lea continued his work on the *Unionidæ*, and published a series

*She had one of the best collections of the *Unionidæ* in Europe, and no one was better acquainted with this branch of conchology.

of papers on the subject, also occasionally a paper on a geological subject, as a reference to his bibliography will show. Some of these were eminently important, particularly the continuation of his papers on new *Unionidæ*, their anatomy and physiology, and the one on the foot-prints of the *Sauropus primævus* found by him in the Red Shales at Pottsville, Pa., 1,700 feet below the conglomerate, being in Professor Rogers's Formation No. XI, and which constitutes the oldest case of an air-breathing animal on record.

Professor Agassiz, however, at the meeting of the American Association of Science at New Haven, asserted that he "did not believe that any air-breathing animals had existed before the New Red Sandstone."

This assertion was made notwithstanding Dr. King had published his discovery of saurian foot-prints near Greensburg, Pa., between the coal strata in Rogers's Formation No. XIII. These foot-prints are several thousand feet above those mentioned by Mr. Lea in No. XI.

Professor Rogers subsequently procured through Professor Sheafer, the geologist, and his assistant, impressions of the same species at the same locality. Mr. Lea was well aware of the great importance of this discovery, and some years after his publication in the "Transactions of the American Philosophical Society," with reduced figures on stone, he issued a fine edition in large elephant folio, which enabled him to print the figures life-size in the exact color of the Red Shale, thus producing a fac-simile of the original. The type was necessarily so large that he had to have it cast for the purpose, and the paper was also made expressly for the work. The whole was eminently successful, and it presents a specimen worthy of American typography and book-making which is nowhere excelled.

Previous to this he published numerous papers on fluviatile and terrestrial mollusca, and his important paper on the description of the "Clepsysaurus Pennsylvanicus, of the New Red Sandstone Formation of Pennsylvania."

Having retired from business, he determined to revisit Europe, and took passage from Philadelphia, in the steamer City of Manchester, June 3, 1852, accompanied by his wife, daughter, and sister.

Arriving at Liverpool on the 17th of June, he spent four or five days with his old friend and correspondent, William Rathbone, esq., and was very glad to see again his friend Prof. Thomas Nuttall,* who was invited with several others to meet Mr. Lea at dinner.

*Professor Nuttall, the eminent botanist and ornithologist, had returned to England to reside, a fortune having been left him by an uncle on condition that he should not leave England more than three months of each year. This was hard for such a thorough lover of nature as Professor Nuttall to assent to and was accepted only for the sake of his two sisters. He nevertheless managed to have six months by taking the last of one year and the beginning of another. This was his method, as he told Mr. Lea at his house in Philadelphia, where the professor was a frequent and always a welcome guest.

From Liverpool Mr. Lea with his family went to London, where he was received by his former friends, and made many new ones among the younger naturalists, among whom the most valuable were the late lamented Edward Forbes, of the Government establishment of Br tish Economic Geology, and S. P. Woodward, of the British Museum, and author of that excellent work, the "Manual of the Mollusca." He also met his old friend Mr. Abbott Lawrence, then American minister to England, and enjoyed the hospitality of Mr. George Peabody at a "white-bait dinner" at Blackwell's.

He visited the Houses of Parliament, where he heard Lords Brougham, Grey, and Campbell the chancellor, and D'Israeli, and Gladstone. Lord Brougham was nervously restless; Lord Grey was clear and earnest: Lord Campbell was the most natural and certainly the best speaker.

Leaving London, Mr. Lea paid a brief visit to Paris, and went from thence to Brussels, passing but a short time in each city. At Brussels he had the privilege of meeting Quetelet, the well known scientist.

He afterward visited Bonn, where he met Professors Troschel and Roemer at the university. The latter, whom he had entertained in Philadelphia, expressed great pleasure at seeing him in Europe, and offered every service in his power. He was at that time engaged upon his work on the "Tertiary Shells of Texas," and had Mr. Lea's work on the "Tertiary of Alabama" before him. Mr. Lea saw here the *Archegosaurus* and numerous other fossils. Professor Roemer told him there were about one thousand students at the university. He took him to see the extensive collection of minerals and fossils of Krantz, who had a fine head of the *Zeuglodon* and a perfect *Ichthyosaurus*. Mr. Lea, with his family, went up the Rhine, stopping at Neuwied to see Prince Maximilian, the eminent naturalist and author of "Travels in North and South America." During his visit to Philadelphia the prince had been a frequent guest of Mr. Lea, and they had corresponded after his return to Europe. He received the ladies and Mr. Lea with great courtesy and hospitality, and offered the kindest service and advice with reference to their intended journey in Switzerland and through the rest of Europe. He most kindly gave Mr. Lea a circular letter of introduction addressed to all scientists in Germany.

From Neuwied Mr. Lea went to Ems, Schwalback, Schlangenbad, Wiesbaden, and from thence to Frankfort, where he met Von Meyer, who was then engaged in describing the Saurian bones, of which he had several species. He showed Mr. Lea his drawings and manuscripts. He had been twenty-eight years engaged in the study of fossil reptiles. Mr. Lea greatly enjoyed this visit and the kindliness of his reception.

At Heidelberg he saw Professors Bronn and Leonhard, both of whom were busy in making investigations. The latter was at his pseudo-crystals, of which he showed Mr. Lea many of feldspar, garnet, &c.

At Geneva he had the pleasure of meeting Moricand, with whom he

had corresponded for many years. He showed Mr. Lea his very fine cabinet of shells, and gave him some rare terrestrial mollusca from Guatemala, &c., which he had collected while traveling there.

From thence he went to Chamouni, where he examined the glaciers, which were magnificent. He went on the *Mer de glace* and examined the blocks of granite lying on the ice. The exit of the Arveyron, flowing under the glacier and strewing hundreds of huge blocks of granite in its course, was particularly interesting, as was also the deep cave of blue ice.

In his visit to Zurich Mr. Lea met two of the professors of the university, Schintz and Mousson. Passing through the ancient city of Ulm, he stopped at Stuttgart, where he found Professor Yeager, of the university, had already gone to attend the meeting at Wiesbaden, but he saw Professor Krauss, who very kindly showed him the excellent collection of the public museum, which embraced tusks and molars of the mastodon of great size. One tusk was said to be 3 feet in circumference and 17 feet long.

Mr. Lea hastened on to Wiesbaden, where he found Professor Yeager expecting him. He and Professor Krauss introduced him to many of the members. There were assembled some eight hundred of the prominent scientific men of Germany, among whom Mr. Lea more particularly made the acquaintance of Haidinger and Von Hauer of Vienna, Dunker, Von Buch, Müller, Kurr, Gerhard, Klipstein, Remak, Stilling, and Desor. Professor Leonhard read a paper on "Pseudo-crystals" and Von Hauer read one on the "Tertiary Mollusca of the Vienna Basin." Professor Kurr read a paper on the diluvian of the Swabian Alps in which were found human teeth with mastodon bones. Von Meyer expressed his belief that "they were recent, and accidentally mixed with the fossils."

Mr. Lea subsequently went to Strasburg, where he saw Professor Schimper, the distinguished geologist, who received him most kindly, being introduced by letter from Prince Charles Buonaparte. He showed Mr. Lea specimens of the Kuiper, Muschel Kalk, and Bunter sandstones concerning which he had published so much, and gave him his papers on these subjects, together with specimens, and kindly offered to take him to the Vosges localities to see the different formations, but Mr. Lea could not spare the time. He gave Mr. Lea the geology from Strasburg to Paris by the road which he intended to travel, which was very interesting.

Arriving in Paris, Mr. Lea saw Boivin and Petit, both eminent conchologists. He arranged and named the *Unionidæ* in each of their cabinets and gave them numerous new species from the United States. He also spent some time with D'Orbigny, the well-known geologist and traveler who discovered that remarkable and rare shell which he called *Acostea* from the rivers of Colombia, but which Mr. Lea had suggested

was the *Mulleria* of Ferussac, as it afterwards on examination proved to be, he very kindly gave Mr. Lea a fine specimen of it.

During his stay in Paris, Verneuil, the geologist, called upon him. He had just returned from Spain, where he had been to examine the geology of that country. He invited Mr. Lea to dine with him, to meet some of the most distinguished geologists of Europe. There were present Elie de Beaumont, Leopold von Buch, Count d'Archiac, Barrande, Mechelin, and Dumont.

At the hospitable house of M. Petit, Mr. Lea met with Largierelett of Rouen, who expressed "great pleasure in meeting with the author of so many fine memoirs." He invited Mr. Lea to visit him at Rouen and view his cabinet. Michaux, the eminent botanist, called on Mr. Lea and accompanied him to the marine department to see a bust of Fulton which he had made in marble from a bust in clay by Houdon. Michaux had induced the Government to permit him to place it there, there being only one other bust in this rich museum of naval matters, and that was of one of their celebrated admirals.

Michaux called by appointment to consult Mr. Lea about his will, intending, as he told him, to leave a considerable amount to the American Philosophical Society of Philadelphia (of which they were both members), to form an arboretum. Mr. Lea told him the necessity of using the legal form of a bequest in France. He called the next day with his will sealed, and a letter to the Philosophical Society expressive of his wishes, and put them in the charge of Mr. Lea, who forwarded them to Dr. Robert M. Patterson, who was then president of the society.

Michaux told him that he was the *only* passenger from Albany with Fulton on his return trial trip to New York, and said that "people were afraid of being blown up." This was Michaux's first acquaintance with Fulton, and created a friendship which lasted through life.

While visiting in Paris, Mr. Lea frequently saw Prince Charles Buonaparte, whom he had known in America and who had been his correspondent for many years. The prince gave him a dinner, at which the ladies of the party were present. Among the guests were his two cousins, Prince Lucien and Prince Napoleon. The latter bore a striking resemblance to his uncle, Napoleon I. In the evening there was a brilliant reception.

By appointment, Mr. Lea called upon Elie de Beaumont, and after passing an hour in conversation with him they went to the annual meeting of the Institute, M. Lebrun presiding. Four papers were read. M. Petit accompanied Mr. Lea to meet Dr. Chenu, the naturalist and author, who had the great collection of Delessert under his charge. At that time it consisted of Lamarck's and Prince Massena's collections united. The chief object of seeing this collection again on the part of Mr. Lea was the hope of finding the original specimen of *Mulleria* of Ferussac, which had never been figured, but described in 1823 by Ferussac, and as being in Lamarck's collection. He told Dr. Chenu

that he thought it must have been mixed with the *Etheria*, of which this collection had many specimens. Dr. Chenu declared this could not be so, or he would have seen it. As soon as he pulled out the drawer, Mr. Lea saw at a glance the identical specimen which Ferussac had described. He took it up and declared this to be it. Both the naturalists were surprised and delighted. The two valves of the young shell, when it made its remarkable change, were plainly visible but somewhat eroded. Thus Mr. Lea's theory of the genus *Acostea* of D'Orbigny was complete—it was a *Mulleria*.

Dr. Chenu went for Delessert, who was in another part of his hotel, and soon returned and presented him to Mr. Lea. He expressed great pleasure in meeting him, and was much pleased to find that this specimen was recovered and was of so much interest. He said, "We must bring it before the Institute."* Mr. Lea told him that it was not necessary, as he had published his theory, which was now verified, before he had left home.

At Lyons he saw M. Tervier and his beautiful collection of Mollusca. It was particularly fine in terrestrial shells, on which he had published much. Leaving Lyons, with his family he descended the Rhone, and passing through Avignon and Nimes, arrived at Marseilles. From thence they traveled by private carriage through Italy for seven months until they came to railroads again at Vienna in the following spring. At Florence, where he remained over three months, he made the acquaintance of several men of science and art, among whom were Powers, the American sculptor, and Pentland, the English geologist. He had a letter of introduction to Professor Corridi, director of the academy, who courteously offered his services in every way possible. He also had letters to the Marquis Torregiani, who had been in the United States and was much interested in introducing the public-school system of the United States into Tuscany. He made an excursion with the marquis and Mr. Pentland 7 miles from the city to examine the Nummulite formation. He asked Mr. Pentland if any other organic form had been found with nummulite. He replied, "that none had been found." They examined the quarry thoroughly and Mr. Lea found among the small pieces a specimen with a favocite, which greatly surprised Mr. Pentland.

After passing a month in Rome, they visited Naples, where they examined all the points of interest in this beautiful city. Mr. Lea having letters to Professor Schacchi, called on him and saw the collection of minerals belonging to the university. Those from Vesuvius were particularly interesting. He also met Signor Dolli Chiaji, successor of the famous Poli, who finished his great work on the Mollusca of the Mediterranean. While at Naples he visited Vesuvius, Pompeii, Baiæ, Posilippo, the Temple of Jupiter Serapis, Pæstum, and Herculaneum, after which he embarked with his family in a steamer for Leghorn *en route* for Florence, where they remained four or five weeks.

*He was a member of the Institute.

CHAPTER IV.

EXAMINATIONS OF COLLECTIONS OF NATURAL HISTORY.—PROGRESS OF SCIENCE.—DESCRIPTIONS OF DISTINGUISHED SCIENTISTS.—DEPARTURE FOR AMERICA.

In the spring of 1853, Mr. Lea with his family crossed the Apennines to Bologna, afterwards visiting Modena, Milan, Padua, Verona, and Venice, where they remained three weeks. Returning to Verona they crossed the Tyrolean Alps to Innspruck, from thence to Lindau, where they took the steamer down the Danube to Vienna.* Here Dr. Lea met a number of his German scientific friends. Haidinger and Von Haur were the first to call upon him and offer their services. The former said that he was "a member of the Academy of Natural Sciences of Philadelphia, and therefore Dr. Lea must feel at home in Vienna."

He introduced him to Professor Hörness at the Imperial Academy, who was then engaged on the Tertiary Shells of the Vienna Basin, and to Professor Swess, who was occupied in the minute examination of the *Brachiopoda*. Von Hauer also came, and they had a long conversation on many geological and zoological subjects.

They then went to the ichthyological department, where he was introduced to Professor Heckel, who was examining some magnificent specimens of fossil fishes from Monte Bolca. Other professors came in and Dr. Lea was received with a hearty German welcome. Professor Hörness showed him some Tertiary shells from Texas, which Dr. Lea recognized as the same species which he had from Alabama, showing him the figures in his book, which Professor Hörness had in his possession.

A few days after, he called upon Professor Haidinger by appointment to meet Professor Von Hauer at the Imperial Geological Institute. The professor, however, was too unwell to leave the house, and detained Dr. Lea nearly three hours, talking over various geological matters and showing him many things of very great interest.

Subsequently Dr. Lea went to Professor Von Hauer, and they immediately commenced the examination of the rocks of Austria. The professor showed him specimens of great interest, as a formation, which he believed was between the Dias and Trias, differing from them both in its fossil characteristics, but rather more resembling the Trias. It contained many large *Ammonites*, *Nautili*, *Orthoceratites*, &c. One magnificent *Am. Meternichii* had the most beautiful chambers which Dr. Lea had ever seen in any specimen of *Ammonite;* it measured 2 feet in diam-

* While in this city he received information that Harvard University had conferred upon him the degree of LL. D.

eter. All the species in this formation are new. Von Hauer called it *Hallstatter Schichten;* it is the same as that of St. Cassian in the southern part of the Alps. He told Dr. Lea that in the Vienna Basin the Miocene and Pliocene were one formation, that they could not make a separation. He also showed him a fossil *Unio* which came from the Tertiary of Sölsnitz. It was about 4 inches wide and undulate over the posterior portion. The geological survey of the empire was being made by the members of this institute at the rate of 10,000 square miles a year, and would require thirty years to finish it. It was on an enormous scale.

Dr. Lea was gratified by receiving a call from Professor Boué, the geologist, who had been a student with his old friend, Professor Vanuxem, in Paris in 1816. He resided some distance in the country, but hearing that Dr. Lea was in Vienna, very kindly came to see him and offered his services.

Dr. Lea made other visits to the Imperial Geological Museum, and in one of these he saw Professors Hörnes and Swess. After comparing some fossil shells Professor Swess went with him to the zoological department, where he introduced him to Professor Frauenfeld, and to the distinguished zoologist, Desing, who had unfortunately become blind. They received him with the kindness so characteristic of the Germans. With these professors Dr. Lea went over the whole collection of *Unionidæ* and found much that was very interesting, particularly the specimen which he recognized as figured in Wood (Index Testalogicus) as *Mya nodulosa*. It was labeled *Chama plumbea* by Muhlfeld, but the habitat was not given, which is very much to be regretted, as Wood knew not whence it came. The great interest attached to this mollusk is that it does not belong to the nodulous group of North America *Unionidæ*. By inspecting this specimen, which consists of the right and left valve of two different individuals, Dr. Lea detected the very curious fact that both the teeth (cardinal and lateral) are *striate*, like the teeth of *Castalia*. Neither Wood nor these gentlemen had observed this important characteristic which places it in another genus, while exteriorly it is the same as *Unio*.* Dr. Lea had a long conversation with Professor Swess about the muscles of the *Brachiopoda*. He and Mr. Davidson of London did not agree with Professor Owen on the use of these muscles. He showed Dr. Lea many curious forms of the interior processes of the *Terebratula*, recent and fossil, and as his paper was soon after published with good figures, the result was exceedingly interesting to malacologists. Dr. Lea showed him the muscles of attachment in the shell of the *Unio*, and that of the ligament of the back, for the purpose of giving him some hints as to the probability of finding something analogous in the *Brachiopoda* in reference to the open condition of its valves when at rest, referring also to those genera which have internal ligaments, viz,

* Dr. Lea wrote from Vienna an account of this discovery to Dr. Leidy, to be read before the Academy of Natural Sciences.

Mactra, *Gnathodon*, *Amphidesma*, &c. Desing listened with interest to what was said, and seemed to have well considered some of the facts connected with the anatomy of the animals. His investigations had been chiefly in the *Annelides* and intestinal worms.

It was with great regret that Dr. Lea finally parted with these Vienna gentlemen, who had been kind to a marked degree, particularly Professor Haidinger, who remained his correspondent until his death.

Leaving Vienna with his family he made the journey to Prague by railway, a distance of 250 miles. The country is almost perfectly level, being diluvian, and is thoroughly cultivated, the people appearing prosperous and happy. In the latter part of the journey the formation is transition (graywacke).

At Prague he called upon Barrande, whom he had met at Verneuil's dinner in Paris, but he had gone to the country, and Dr. Lea did not see him again as he had hoped. Thus he lost the advantage of examining probably the best collection of fossil remains of the Silurian formation in existence. Barrande had already sent his extensive work to him.

At the beautiful city of Dresden Dr. Lea visited the Green Vaults, where he saw the splendid collection of diamonds and other precious gems for which this city is celebrated. There were many diamonds of different colors, among which the green one is the largest and rarest.

During his visit at Berlin he had interesting interviews with Humboldt, Ehrenberg, Johannes Müller, the two Roses, and others. Humboldt was still active, and was then engaged on his Cosmos. The great philosopher had simple but thoroughly well-bred manners. Though living at court, as one might say, for the King always had a plate for him at his own table, he had none of the formality of a courtier. As an astronomer, geologist, and geographer he had few equals, and the interest he felt in the new discoveries in geology and physical geography was unabated. He went to the point of a subject at once, and with pencil in hand demonstrated his views. In the course of an hour and a half's conversation in his study he frequently got up to bring maps from his library to illustrate his subject. He showed Dr. Lea some of his plates and drawings for his new volume of Cosmos. He expressed great satisfaction with the geological surveys which were then being made in the United States, and with the many valuable observations in astronomy, magnetism, &c. He regretted that some of the reports of the surveys made to Congress were not better printed and illustrated.

He mentioned the Coast Survey and Professor Bache as connected with it. He also spoke of Captain Wilkes's expedition with great favor, as well as of Professor Mitchel, the astronomer, and others who were "doing good service to science." The Nebraska "Mauvaises terres" was discussed, and with the map before them Dr. Lea mentioned the researches which had been made by Dr. Owen, and the paper of Dr. Leidy. Humboldt spoke of the good reports of the New York geologists and others. Of Mr. Lyell he said, "there was little

that was original in his works." He considered him "too theoretical and not very correct." De la Bêche he greatly preferred. Of Verneuil he could not say too much in his praise. He considered him perhaps the best of all European geologists. Of Elie de Beaumont his opinion was not so favorable. He thought him "too speculative, and not so much to be relied upon for his opinions as Verneuil." Murchison he thought "a very good geologist, but not equal to De la Bêche." He agreed with Dr. Lea that the English geologists had too much neglected organic remains, and that they still felt the disadvantage of such neglect. He expressed great desire to have correct sections of that portion of the American continent which is embraced in the United States, that is, elevations from the sea as well as geological strata. He expressed great regret at not seeing more of Dr. Lea, but the fêtes attendant upon the marriage of the King's daughter rendered it necessary for him to spend much of his time at the court for the present. Subsequently Dr. Lea called on Professor Lichtenstein, to whom he had a letter of special introduction from Prince Maximilian. He showed Dr. Lea the museum in the university over which he presided. The collections here are very fine, particularly that in ornithology, there being none superior to it, unless it be that of the Academy of Natural Sciences at Philadelphia. In ichthyology, mammalogy, reptilia, &c., the arrangement was very good. The professor introduced Dr. Lea to some of his assistants, and very kindly offered his services. The day following he called, by appointment, at the university, when Professor Lichtenstein introduced him to Johannes Müller, to whom he had several letters. This eminent physiologist was engaged at the time on the embryology of the *Asteria*, and he showed Dr. Lea some of the plates which he had prepared for his forthcoming work.

In the zoological department he was shown the fluviatile mollusca brought from the interior of Africa by Mr. Peters. Dr. Lea observed among them a new *Iridina*, and two or three *Uniones*, as well as several *Paludina*.

Having letters from Professors Leonard and Haidinger to Professor George Rose, Dr. Lea called on him. He was the most eminent mineralogist of Berlin. He spoke most favorably of Professor Dana's Mineralogy, mentioning that he used it constantly. Of Professor Haidinger he said he considered him "the founder of the present success of science in Germany." Dr. Lea saw Professor Weiss, who presides over the chair of geology in the university, and after spending half an hour with him in his library he went over the fine collection of minerals belonging to the academy. The crystallographical department was very superior. A dodecahedron garnet was seven inches in diameter. Among the fossil bones, Dr. Lea observed a lower jaw of Dr. Godman's *Tetracaulodon*, with the foramen on the right side, quite two inches in diameter. It came from the United States. There were also beautiful

specimens of the "foot-marks" of the *Cheirotherium*, and a fine collection of meteorolites, second only to that of Vienna.

Dr. Lea called upon Professor Erenburg, who received him very kindly. He showed him many *Foraminiferæ* and *Polythelamiæ*. Some of them were in flint below the coal. On a part of the specimen there was a *Spirifera* similar to those of the Silurian formation. He also showed him some forms from Barbadoes which came from marl constituting a hill 800 feet high and some miles in extent. These forms he said differ from all others except those from Nicobar. He had chalk, limestone, and mud of rivers from nearly every part of the globe, and had made out nearly one thousand species. Having spent the morning with him, Dr. Lea left deeply impressed with admiration for a scientist who so ably carries out the object of his pursuit and who had made himself the leader among scientific men who have engaged themselves in his branch of science.

Dr. Lea saw Professor Ewald, who had recently returned from the Hartz Mountains. He was studying the paleontology of the lower strata, and showed him many specimens of fossil mollusca and particularly some from the Devonian which appeared to Dr. Lea to be too new for that formation. Among them were *Naticæ* with three dark bands of color. He also had iron ore with fossil shells, encrinites, &c., very much like the Danville beds which are Formation V of Rogers's survey; but he thought them to be immediately next below the coal measures, whereas Formation V is considerably lower than the coal, it being Formation XIII of the Pennsylvania survey. Dr. Lea then called on Professor Beyrick, at the suggestion of Humboldt, who told him that the professor was engaged on the papers of Von Buch, and would edit a complete edition of his works. He found Professor Beyrick to be an ardent student of geology, young and active. He was then examining the Tertiary formation of Prussia. He told Dr. Lea that he had found some particular forms which would connect the Eocene and Miocene so as to show the gradual "nuance" of these two masses.

He gave the geologists of the United States full credit for their activity. The "Mauvaises terres" in Nebraska interested them all, and he mentioned that Von Buch had commenced a paper on that subject a few days before his death. He wished Dr. Lea to attend a meeting of the geological society, which was to be held that evening, Dr. Lea having been made a member, but other engagements prevented his attendance. At Cassel Dr. Lea called on Dr. Dunker and Dr. Pfeiffer, both distinguished malacologists, having previously met them at Wiesbaden. Both are large contributors to our knowledge of the land and fresh-water mollusca of the whole globe. He went over the collections of *Unionidæ* of both gentlemen and named doubtful specimens. They were both very attentive, and Dr. Lea parted with these naturalists with great regret.

While at Frankfort he called upon Dr. Rüppell, having a letter from

Prince Maximilian. Dr. Rüppell had traveled much in Egypt and Abyssinia, and had brought together an immense collection of art and natural history for the museum. He showed Dr. Lea that the *Cheirotherium* tracks of the Hilberthausen Limestone are accompanied by Fucoids, and not by sun-dried sand cracks, as had been universally supposed. The specimen in the museum is so perfect that it does not admit of a doubt that these impressions are made by a plant. Dr. Rüppell had by his industry during ten years made the collection of the museum what it was. He expressed great interest in Dr. Lea's publications.

After spending a few weeks at Sewalbach, Dr. Lea and his family descended the Rhine and went to Amsterdam and Leyden. At the latter place Dr. Lea visited the botanical garden, which is one of the largest in Europe. He also visited the museum and saw Schlegel, who very kindly offered his services. The collection here in ornithology is very extensive, and was considered at that time equal to any in Europe. Dr. Schlegel showed Dr. Lea the eggs and a specimen of the extinct *Penguin*. It came from Iceland, and Dr. Schlegel said it was extinct since the last fifteen years. The collection of mollusca was very good. Those of the *Unionidæ* were badly arranged and incorrectly named. Dr. Lea made the necessary corrections, and arranged the whole family.

They subsequently went to the Hague, Antwerp, and Brussels. On his return to Paris he met Dr. Daubney, of Oxford, and had a long conversation with him on geological subjects. The doctor had very pleasant recollections of his visit to the United States ten years before, and particularly of Philadelphia. He informed Dr. Lea that Dr. Buckland had become "hopelessly insane," which was sad news to him. On a visit to a large manufacturer of china, who had three thousand five hundred men in his employ, he informed Dr. Lea that the best and largest part of his ware went to the United States; that without that market the business would be worth nothing. The watchmaker to the Emperor, of whom Dr. Lea purchased a fine watch, made the same remark. He found that all his scientific friends were out of town at this season, excepting Prince Charles Buonaparte and Boivin, whom he frequently saw. The former spoke of their mutual friend, Mr. George Ord, and Dr. Isaac Hays, for whom he had great regard. He spoke of the Academy of Natural Sciences of Philadelphia, of its great collection, that in ornithology "being the best in the world." In regard to the collection in Leyden, he "knew it better than any one else, having spent eight months over it." His own collection he had given to the island of Corsica, where they had recently formed a cabinet of natural history. Dr. Lea dined with him, on which occasion several naturalists were invited to meet him.

Dr. Lea frequently visited M. Boivin, who had a fine collection of mollusca, particularly those of fresh water; he was always kind and cour-

teous, a gentleman of the old school, pressing Dr. Lea to take specimens and books, which he assured him were duplicates in his library.

Dr. Lea went over his *Uniones* and corrected and rearranged them. M. Verreaux's great collection of natural history was very fine, having objects in every department for sale, and Dr. Lea procured there some new species of fresh-water mollusca. One of the brothers was absent twenty-seven years, spending most of the time in Africa in collecting for the Government, most of which was lost on the coast of France with all his manuscripts.

On a visit to the Jardin des Plantes he found many things he had not previously seen. It is a noble institution, but Prince Charles, in speaking of it, said it was "an anarchy."

On presenting a letter of introduction from Professor Dunglison to Professor Flourens, secrétaire perpetuel de l'Academie des Sciences, he was received most kindly, and told immediately, "You are too well known by your publications to need a formal introduction."

On leaving him after a long conversation on various subjects, Professor Flourens very kindly offered to introduce Dr. Lea to any one he wished to know among the scientific men in Paris. On parting, he asked Dr. Lea to meet him at the Institute the following morning to be present at a séance, saying that he would take care to give him a good place and would be glad to make him a correspondent of the Institute. Subsequently they met at the Institute, where he placed Dr. Lea near the president, in the seat for authors who had papers to read. The first read was very good, on "Morphism." Another "On the Doctrine of Chances," by M. Bonamie, was exceedingly clear and well read, but was objected to by another member in great heat, and much discussion took place. There were a number of communications by absent members, which were read by the secretary, M. Flourens. After adjournment, M. Flourens introduced Dr. Lea to Milne-Edwards, who expressed great regret that absence from town would prevent his seeing him again, as he was going in the morning to the Pyrenees. He was also introduced to Adolphe Brongniart, who made an appointment to meet him at the Jardin des Plantes. While conversing on the fructification in fossil ferns he was surprised that Dr. Lea had some from the Carboniferous formation, and observed that they were very rare. He also met Professor Chevreuil, the chemist, and M. Combres, the distinguished engineer. Professor Flourens, after the meeting, which lasted two hours, showed him the library, where he found M. Andresse, the librarian, who said they had many of Dr Lea's works, and would be very glad to be in possession of all of them. At the Jardin des Plantes he saw Adolphe Brongniart and Keiner, who went over the fossils and recent shells with him. He subsequently spent three hours with that eminent conchologist, M. Deshayes, and went over various genera of mollusca, especially the *Uniones*.

M. Deshayes agreed with Dr. Lea that the *Unionidæ* in Europe were

restricted to six or seven species, while in the United States they seemed to be almost unlimited.

Dr. Lea named those about which there had been any doubt, greatly to M. Deshayes' satisfaction. He showed him his manuscripts on the whole range of fossil and recent conchology, a stupendous work, which astonished Dr. Lea. It was the result of thirty years' labor, and arranged in a most convenient manner. It was written on cards about 3 by 4 inches. Of these there are forty thousand, and they are arranged alphabetically for the genera and then for the species. Each species has its whole synonymy complete with reference to author and page. Then with each genus there was a set of cards with the authors who have written on the genus, and these works are arranged chronologically. M. Deshayes promised Dr. Lea a copy of his manuscripts on the *Unionidæ*, which promise he fulfilled within a year.

On going to see M. Verreaux he showed Dr. Lea the manuscript of Prince Charles Buonaparte's new edition of his Ornithology, to which he (M. Verreaux) had added the synonymy, which is immense. Dr. Lea procured from M. Verreaux four recent *Terebratulæ*. September 5, 1853, he paid his last visit to the Institute. In the library he found M. Andresse, the librarian, who had made a complete list of all Dr. Lea's works from 1827.* In the secretary's room he found Professor Flourens, who kindly sent a messenger with him in order that he might "be placed within the square."

Here he found Cruvellier, Duméril, and Professor Owen. Dr. Lea was much gratified to meet Professor Owen, of whose presence in Paris he was not aware. The professor read three papers in French before the Institute: One on the invertebral column and the cranium, which he intended publishing in Paris; another of the papers was on the muscular and nervous systems of *Terebratula*, and there was also one on fossil *Chelonia*. Some good chemical and other papers were also read. Dr. Lea dined with M. Boivin, who told him of the fearful times during the revolution of 1830—"the three days." No one was permitted to go into the street. All had to remain in their hotels, the inhabitants of which clubbed their stock of provisions and did the best they could. If they had ventured into the street they would have been shot.

By appointment with M. Duméril, Dr. Lea met him at the Jardin des Plantes, where they found Professor Owen. After examining the collection of skeletons, where the gorilla was the chief interest, they went into the cabinet of fossil bones where there was a specimen of *Mastodon angustidens*, nearly complete.

Dr. Lea left Paris for London, regretting to part with many friends whom he never expected to see again. After remaining a few days in London he went to Hull, passing from the London basin of Tertiary into

*Afterwards Dr. Lea sent all which he published, until 1876, so that their copies are complete.

the chalk, greensand, oolite, lias, kuyper, and bunter. At Hull the annual meeting of the British Association was convened, Mr. Hopkins, the geologist, presiding. Here he met many friends; among them was the Rev. Mr. Scoresby, so well known for his Arctic voyages and his discoveries in magnetism, whom he had entertained when in Philadelphia, six years previously.

At the dinner table Dr. Lea found Rev. Mr. Sedgwick and Dr. Daubeny. At the section on geology Professor Phillips lectured on the geology of York in a very able manner, and much discussion took place, Mr. Sedgwick being in the chair. Dr. Lea found Mr. Sedgwick a good deal changed, but occasionally he showed his former vivacity and brilliancy. Mr. Charlesworth read his paper on fossil sponges, which was much commented upon. Professor Strickland, who had succeeded Dr. Buckland, in Oxford, as the lecturer on geology, invited Dr. Lea to dine with the Red Lion Club, a very select society, which met every year, at the time and place of the meeting of the British Association, and every third Monday in London. No one could be a member who had not written an important scientific paper. At the meeting of the section Dr. Lea saw Professor Johnston, author of Agricultural Chemistry, whom he had met in Philadelphia, Professor Harkness, and other friends. Afterwards, at the dinner at the Red Lion Club, where, being a stranger, he was received with honors, he had the pleasure of meeting Gould (the ornithologist), Latham, McAndrews, Redfern, and others, whose acquaintance he was glad to make. The dinner was well served, and Dr. Lankaster, presiding, kept the members in good humor by his wit. After the Queen's health was drunk Dr. Lea was complimented and had to make an acknowledgment. Professor Johnston related to the club that "on his arriving at Philadelphia, he had called on Professor Hare, who invited him to the meeting of the Wistar Association,* where he met about two hundred gentlemen, and was introduced to the best science of the city. Here Dr. Hare introduced him to Dr. Lea, and he had been entertained by him." Having stated so much, Dr. Lea was induced to give an account of the Wistar Association, so well known in the United States. Dr. Lea was at a breakfast given by Mr. Frost, president of the local committee. Here he found the Rev. Dr. Scoresby and wife; Mr. Jordan, the former editor of the London Literary Gazette; S. Warren, esq., so well known as a writer; Sir William Hamilton, Mr. Stokes, the astronomer of Cambridge; and many other distinguished men. At a meeting of the geological section, where the Rev. Mr. Sedgwick presided, Dr. Lea was on the platform with him and Mr. Strickland. A young man, unknown to either of them, was prepared to read a description of the gold mines in Australia. He had not proceeded long before Dr. Lea saw Professor Sedgwick showing signs of restlessness.

* The Wistar Association was formed only of the members of the American Philosophical Society.

The fact was, the young man was ignorant of the subject of geology altogether, and pretended to instruct about two hundred intelligent persons present. Professor Sedgwick could not contain himself long, and turning his eagle eye upon him, he asked if he really meant to say so and so; to which he answered that he did. "Then I tell you," said the professor, "that you know nothing of the subject of geology." "Oh, if you say so, I will stop," was the reply, and doubling up his paper he disappeared entirely.

At a lecture (in the great hall) on photography, delivered by Mr. Hunt, Mr. Hopkins, the president, was in the chair. The whole was excellent, with admirable illustrations, diagrams, &c. Dr. Lea was placed on the platform near the president and Colonel Sabine.*

Subsequently Dr. Lea went with an excursion party to Beverly, where he visited the fine minster with Sir William Hamilton, and afterwards Flamborough Head with a large party of geologists and ladies, altogether some eighty, who went to hear Sedgwick and Murchison explain the geology of this high cliff. Among the party were Sir William Hamilton, Colonel Sabine, Professors Johnston, Redfern, Charlesworth, and others. Returning to Beverly, the party dined by invitation with the corporation. The mayor placed the lady mayoress and Dr. Lea on his right, Professor Phillips on his left.

Before leaving Hull Dr. Lea made an appointment with Professor Strickland to see him in Oxford, or at Tewkesbury, where he resided; but the following day he met with that terrible accident which deprived England of one of its ablest geologists.†

Arriving in London Dr. Lea called on some of his scientific friends. Dr. Lankester he found engaged in his microscopic investigation of infusoria of fresh and salt water. He had plants and animals in an aquarium where the water was never changed, the equilibrium being thus perfectly preserved. Dr. Lea called upon Lovel Reeve, with whom he had previously corresponded. He reminded Dr. Lea of their first meeting, in 1832, when he waited on Dr. Lea in a grocery shop on Ludgate Hill. The latter saw, when passing the shop, some shells in the window, and, being attracted by them, went in. He found some new *Unionos* and other desirable specimens, of which he purchased a considerable number. Now Mr. Reeve was the owner and editor of the London Literary Gazette, and Iconography, both of which were entirely successful as a profitable investment, and he had reputation as a man of science, being connected with some of the scientific societies of London.

On a visit to Sir Charles Lyell, he informed Dr. Lea of some discoveries which had been made in the coal formation of Nova Scotia, a bone of a new animal, which Professor Wyman had called *Dendrerpeton acа-*

* Sir Edward Sabine, since general, and president of the Royal Society.

† He was struck by a locomotive coming out of a tunnel, where he was making a sketch. His wife was the daughter of Sir William Jardine, Bart., the ornithologist, who had previously given Dr. Lea an invitation to Jardine Hall.

dianum; also a fossil pupa, this being the first instance of a land shell being found in the coal formation. He also informed him that a jawbone had been found in the Red Sandstone of Prince Edward's Island, which sandstone he considered equivalent to the Red Sandstone of Connecticut and Pennsylvania. He lent him a rough drawing of the jaw by Mr. J. W. Dawson. Sir Charles also showed Dr. Lea drawings of a cetacean, which had been described by Dr. Leidy, from the Greensand of Mullica Hill, N. J.; and the drawings of the vertebra of another, said to be from the Greensand of Greenwich, N. Y. But Sir Charles was satisfied that the latter was not from Greenwich, N. Y., and was therefore not to be considered; but there remained the Mullica Hill specimen, and a tooth, which Mr. Wetherill, of Burlington, N. J., had given Prof. H. D. Rogers, but which, when Sir Charles saw the professor, was packed up, and therefore could not be seen. Sir Charles remarked that this matter of a cetacean being discovered in the chalk formation was of great interest, as there never had been one found so low in the strata. Some days after Sir Charles called on Dr. Lea, and they again talked over the subject of the bones of the Greensand formation of New Jersey, and the jaw of the Red Sandstone of Prince Edward's Island. He mentioned that he had written to Dr. Leidy before leaving America in regard to it, but he was not sure that the box containing the bone had ever reached New York. He had ordered it sent to the Clarendon Hotel, where he was stopping, but it had not arrived before he left there. He expressed great desire that the fossil bones from the Greensand of New Jersey should be collected for the Academy of Natural Sciences, and regretted that the tooth, which had been sent Professor Rogers, had been lost, as it was of great importance to the geologist of the State of New Jersey. Sir Charles told Dr. Lea that Professor Rogers now could not remember anything about it. He said that a drawing was made of it by Mr. Conrad, and that it was in the form of a *Mammifer;* that Mr. Lesueur had seen it, and that it was similar to a seal's. They also talked over the New Red Sandstone of Nova Scotia, which Sir Charles thought to be the equivalent of that of Connecticut, New Jersey, and Pennsylvania. The "foot-marks" (*Sauropus primævus*) from near Pottsville, Pa., discovered and described by Dr. Lea, was a very interesting subject to Sir Charles, who examined a specimen of the rock, which Dr. Lea had with him. It surprised him from the beauty of the rain-drop pits which covered the specimen, and he expressed great satisfaction on seeing it. He was surprised to find it was so low down in the series. Indeed, he seemed to have taken Professor Rogers's opinion, and as he said, quoted from that. Dr. Lea then read a few paragraphs from his paper to show him exactly how many feet (1,700) below the conglomerate of the Coal Measures these "foot-marks" were found, and on reading the quotation from Professor Rogers that these "'foot-marks' were but a few hundred feet below the Coal Measures, and only a single leaf in the creation," he emphatically

said, "Why, it is two whole volumes!" Sir Charles did not hesitate to express his opinion that as they were certainly in Mr. Rogers's Formation XI, and the coal measures was his Formation XIII, "Professor Rogers had lessened the importance of this discovery because he had not found it himself."

Sir Charles then took some notes of the conversation, and told Dr. Lea he would read over his memoir carefully and set the matter right in his next edition, which was going through the press.

Subsequently Dr. Lea and family went to Cambridge, where Professors Sedgwick and Babbington had invited him when at the meeting at Hull, but the former was absent; the latter he found deeply engaged over his favorite plants. He very kindly left the plants to call upon the ladies, and they all went to visit Saint John's College and other places of interest. Saint John's is the largest building, having four courts, and is altogether a noble structure. At Trinity College the collection of fossil remains chiefly made by Professor Sedgwick is very fine, and there is a magnificent specimen of *Plesiosaurus*, which is entirely complete.

When at York Dr. Lea called on Professor Phillips, who received him very kindly and made himself very agreeable. While conversing on geological subjects Professor Phillips received his mail, which informed him of his appointment to the chair of geology at Oxford, made vacant by the death of Professor Strickland, unfortunately killed on the railway. At Oxford Dr. Lea called on Dr. Daubenay, who unfortunately was absent for some days, but left directions with his gardener and servants to receive Dr. Lea and his party, and they were very attentive. The botanical garden was particularly interesting, containing among other fine flowers, the *Victoria regina* in full leaf and flower, the flower being sent to Dr. Lea's party in the evening. Their stay was made very pleasant in this grand old city, so celebrated for its libraries, containing many ancient and beautiful manuscripts, some of which were eight hundred years old, and beautifully illuminated. The Bodleyan and Radcliffe libraries are well known throughout the learned world. The librarian of the latter, when Dr. Lea wrote his name in the visitors' book, told him they had his works, and politely referred to them.

On the way to Bristol Dr. Lea found in the car a gentleman with whom he entered into conservation, and soon learned he was professor of mineralogy at Oxford. He gave his card and Dr. Lea, observing the name Maskelyne, asked him if he was of the family of the astronomer. He answered, "Yes; his grandson." He added that he had often been asked that question by Americans, but never by an Englishman. He was evidently much gratified with the recognition of a great name by the Americans. He politely said Dr. Lea's name was not unknown to him, and expressed pleasure in meeting him, regretting he had not seen him at Oxford, where he had met with Professor Silliman and other men of science from America. He said the best work on mineralogy

was written by an American, Professor Dana, and that he used that work as his text-book. On parting he very kindly told Dr. Lea that he would gladly be of service to any of his friends who should visit Oxford.

Dr. Lea visited the remarkable ancient remains of Stonehenge, supposed to be of Druidical origin. The formation here is the Chalk, while the huge stones, of which there are ninety-four, are either Sandstone or Archaic, except the "Slaughter stone," which is slate, and said by Dr. Buckland to have been brought from Wales. The larger stones are said to weigh 45 tons. The geological structure from the Coal at Bristol to this locality is Lias, Oolite, and Chalk.

Returning to London Dr. Lea visited the Museum of Economic Geology,* but found both his friends De la Beche and Forbes were out of town. Mr. Bailey, assistant to the ordnance survey, very kindly offered his services, and took him to the cases he wished to see. They went over the collection of the New Red Sandstone formation, which Dr. Lea found to be equivalent to that of Pennsylvania. In the private room Mr. Bailey introduced Mr. Morris, the well-known author of the "Catalogue of British Fossils." He mentioned that Dr. Mantell had invited him the previous year to meet Dr. Lea, but he could not come, as he had an engagement. He pressed Dr. Lea to visit him at Kensington. They went over the mollusca brought by the Rattlesnake in her voyage to South Africa, &c.

Dr. Lea met here Dr. Price, professor of chemistry in the Royal College, whom he had previously seen at Hull, at the late meeting of the British Association. He invited Dr. Lea to dine with the Red Lion Club the following Thursday, which invitation was accepted. A few days after Dr. Lea went again to the Museum of Economic Geology, taking with him some specimens of *Unionidæ* and some volumes of his works which he had promised. He was glad to find that Sir Henry de la Bêche had returned, and he expressed great pleasure at seeing Dr. Lea again, and thanked him for the valuable present which he had made to the institution. They talked over the New and Old Red Sandstones, and Dr. Lea explained the position in the series of the "foot-marks" (*Sauropus primævus*) found by him near Pottsville, Pa. Sir Henry said that "the thing was perfectly clear," and "it was a capital hit." As to whether the formation was Devonian or not, that was a different question; it was fixed in Professor Rogers's No. XI,† and that was the point." Sir Henry observed that there was great difficulty about these Red Sandstones. In speaking of the New Red Sandstones he said they were entirely unsettled as regarded the British locality, that the strata were much altered after deposition by subsequent denudation, and the present deposits were therefore much confused. He made Dr. Lea a diagram by which it would appear difficult to distinguish one member of the Permian from another.

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* Since changed to Royal School of Mines.

† See page 70.

Dr. Lea called on Mr. Buchanan, the American minister, and had half an hour's conversation with him. Among other things he said that he was impressed with the idea that the English did not like us Americans. Dr. Lea told him that at Rome, Major Cass, American minister, had told him the same thing, but that it had not been his impression in his intercourse with English gentlemen.

Dr. Lea went again by appointment with Sir Henry De la Beche to the Museum of Economic Geology. He took with him some rare specimens of *Unionidæ*. Sir Henry and Edward Forbes were delighted to see the *Unio spinosus*, of which there was a good specimen.

Again the New and Old Red Sandstones were talked over. They both told Dr. Lea that the Magnesian Limestone of Riley and Stutchbury was very doubtful as to its true position, but the matter would be worked out by the survey. Professor Forbes and Dr. Lea went over the Devonian fossils from Ireland which had been recently received at the museum. Among these was a specimen resembling an *Anodonta*, of which he wished to have Dr. Lea's opinion. After a close examination, he agreed with the professor and pronounced it a true *Anodonta*. In one specimen the dorsal line was complete, and presented the exact characters of that genus. The professor expressed himself much pleased to have his opinion "confirmed by the best authority on the subject of fresh-water mollusca." They then examined some of the *Uniones* from the Middle and Upper Eocene. There were two distinct species, having their pearly nacre remaining, but they were much broken. The beaks in some specimens showed the undulations very perfectly, and the teeth were nearly perfect. The cardinal teeth differ from those of existing species in having the posterior lobe large, while the anterior is depressed and almost obsolete. Subsequently Sir Henry De la Beche sent Dr. Lea the six volumes of the Geological Survey of Great Britain, together with his acknowledgment of favors on Dr. Lea's part, Dr. Price called on Dr. Lea to take him to dine with the Red Lion Club, where he met Gould, Lankaster, Forbes, Lyell, Woodhouse, and Frances, editor of the Philosophical Magazine, McDonald, professor of natural history in the University of St. Andrews, Douglas Jerrold, and some dozen others. A moderate dinner and little wine was the rule of this club. Prof. Edward Forbes presided at the dinner, and the evening was pleasantly passed, enlivened by his ready wit and that of Douglas Jerrold. Adjourning at 12 o'clock, Dr. Waterhouse and Professor McDonald kindly walked home with Dr. Lea, although the distance was very great.

At the British Museum Dr. Lea spent a couple of hours with Mr. Waterhouse and Mr. Woodward, the author of "Recent and Foreign Shells," who had the departments of fossil bones and fossil mollusca under their charge. The latter showed Dr. Lea some beautiful specimens of the *Rudista*, of which he had cleaned out the interior, so as to show the teeth and, in both valves, the muscular cicatrices, the cavities, &c. Dr. Lea saw at once that they proved these genera to be close

to *Chama*. The specimens of *Discera* were exceedingly beautiful and some of them very large. Dr. Lea was shown the complete specimen of Murchison's fossil fox. The collection of fossil Mollusca is very large, and arranged with great skill by Mr. Woodward. He asked Dr. Lea about the *Acostea*, mentioning that he had read his paper with great interest.

Dr. Lea explained the growth of the shells, and mentioned that while in Paris he had found the original specimen of *Mulleria*, described by Baron Ferussac, in the cabinet of Delessert. It was described by Ferussac in 1823, and lost sight of until Dr. Lea found it in the drawer, as he suspected, mixed with the *Etheria*, which exteriorly it resembles. Mr. Woodward then mentioned that Dr. Gray, of the British Museum, had published his notice assimilating *Acostea* with *Mulleria* after he had received Dr. Lea's paper. Dr. Lea told him he never had any doubt of it, but he was very glad to know the fact from him. Dr. Lea had sent his paper to Dr. Gray in November, 1851, as well as to many others in London, and Dr. Gray must have seen it a month or two before he published his notice, in February or March. Mr. Woodward then said he knew personally that Dr. Gray had Dr. Lea's paper before he published his notice, and that "it was just like Dr. Gray, who was quite accustomed to appropriate in this manner the work of others."

On a visit to the rooms of the Geological Society Dr. Lea met T. Rupert Jones, secretary of the society and author of many valuable papers on *Foraminifera*, *Estheria*, &c. He showed Dr. Lea the manuscript of a paper by Trimmer on the Wealden up to the Diluvian, which exhibited a very curious case of denudation. The paper appeared in the Quarterly Journal of the Geological Society.

They talked over the "foot-marks" of the Red Sandstone near Pottsville, Pa., a plaster cast of which Dr. Lea had sent to the Geological Society. Mr. Jones showed him a fine collection of fossil *Unionidæ* made by Mr Beccles from the Wealden. Many of the specimens were very large and much like those Dr. Lea had examined carefully and made notes of for Dr. Mantell. They were generally casts. He subsequently went, by appointment, with Professor Owen, to the College of Surgeons.

They discussed many of the fine specimens of fossil remains of animals, and the *Glyptodon* was particularly interesting from its enormous size, and for its thick, bony covering being nearly perfect. The specimens of *Mylodon* and *Megatherium* were very fine, and the great *Dinornis* nearly perfect. The cranium of the *Troglodites gorilla* was examined and commented upon, a perfect specimen having been seen by them at the Jardin des Plantes in Paris. Professor Owen showed Dr. Lea the skeleton of a man who had the shaft of a vehicle run through the ribs on both sides, and yet the man lived for twelve years afterwards. The professor expressed a great desire to visit the United States, and said he would deliver a course of a dozen lectures

there if he could get leave of absence for three months from his duties at the College of Surgeons. He very kindly pressed Dr. Lea to visit him at Richmond Park, expressed great pleasure at meeting him, and hoped to hear from him when he returned to America. Dr. Lea spent a morning with Mr. Sharpe, the eminent geologist. Among other subjects the *Sauropus* in the Red Sandstones of Pottsville was fully discussed to Mr. Sharpe's satisfaction. The fossils of the New and Old Red Sandstones were the subject of much conversation, and he told Dr. Lea that "there was much doubt as to the locality where Dr. Mantell's *Telarpedon elginense* was found." * * * "That the rocks of Elgin were absolutely Old Red Sandstone, but the specimen was found farther north, near the coast where New Red Sandstones were now believed to exist." He agreed with Professor Harkness "that it was very doubtful if the age of the *Telarpedon elginense* was what was assigned to it," and that he was inclined to a different opinion. If this be the case, the *Sauropus* will prove to be the oldest air-breathing animal yet found. Mr. Sharpe said he "found it very difficult to assign to its proper age this anthracite coal-field;" he was "inclined to believe it different from that of the coal-fields of Northumberland and Durham." He states that it was his opinion "that many coal-fields, which had been thought to be of the same age would be found to be different." He showed Dr. Lea a collection of *Uniones* from the Wealden, one of which was remarkable for an angular umbonial slope somewhat like *Margaritana arcula*, which Dr. Lea had described. Some of his specimens were purchased at the sale of Dr. Mantell, who, it will be remembered, had died while Dr. Lea was on the continent. Many of these specimens had Dr. Lea's labels, which he had put on the previous year when in London, he having gone over the whole of the collection very carefully. Mr. Sharpe gave him a specimen of *Pachyodon*, which is a very singular genus, much resembling the *Unio*, but it comes from salt water. He also kindly gave him some of his papers on the Red Sandstones.

Dr. Lea called on his old friend, Charles Stokes, the geologist, whom he found very weak and much exhausted. He reclined upon the sofa and conversed about Dr. Lea's former visits to him, Dr. Buckland, &c. He had in his hand a proof of the impression of a new map of Captain McClure's discoveries in the northern regions, in which Dr. Lea was much interested, having written a long paper on the Northwest Passage many years previously. He expatiated very much on the subject, and agreed with Dr. Lea that it would be useless to pursue the discovery, as further search could not be likely to benefit any one. Visiting the Museum of Economic Geology again, Dr. Lea took some fine specimens of *Unionidæ* for the Institution. He found Sir Henry De la Beche, with whom he had a long conversation on this family, in which he gave him an account of his divisions of it. Sir Henry expressed himself greatly obliged, and told Dr. Lea he had "listened to an excellent lecture." He entirely agreed with him in the manner of placing the specimens in a grooved slat, and

giving the major axis the horizontal line, and he fully appreciated the value of the ellipses, for, as he observed, "these were constants." Calling on Dr. Carpenter with a letter from Dr. Dunglison, he was told, very kindly, that Dr. Lea required no letter to him. Many branches of natural history were talked over, *Foraminifera*, &c. He showed Dr. Lea some fine *Orbitellæ*, with many varieties which had been described by D'Orbigny and others as distinct species. Of these he had made large drawings, and showed conclusively that the number of species must be greatly diminished. He also showed Dr. Lea his prepared specimens, beautifully arranged on glass, with their names written with a diamond point. The structure of the *Pinna* was finely illustrated by cross and longitudinal sections showing the cells with the basement membrane. The *Terebratulæ* were particularly beautiful, the foramina being perfectly displayed. In the *Unio* the structure is very different from that of the *Pinna*, the layers of the latter being imbricate. The epidermal matter, or more properly the periosteum, is deposited without any structure, while in the *Terebratula* it is plainly seen to have beautiful openings, which really seem to have opercula. The structure of *Echinus* is very different. Sections of spines of different species differ very much. The cross-section has somewhat the appearance of the cross-section of a tree, but the tubular form differs, so that in the *Echinus* it looks like lace-work. Afterwards they went over the *Uniones* which Dr. Lea had taken him, noticing more particularly the undulations of the beaks and the different ages. He was much interested in these differences, which he had never before observed. He invited Dr. Lea to dine with the Philosophical Club, composed of forty-seven working members of the Royal Society, the number of members being restricted. But Dr. Lea, having been previously invited to the dinner by Professor Forbes, said he would meet him there.

Dr. Lea returned a visit from William J. Hamilton, secretary of the Geological Society, whom he had met at the congress of German scientists at Wiesbaden the previous year. He found him engaged in examining a collection of mollusca and fossils sent by the well-known Rajah Brookes from Borneo, which were particularly interesting. He gave to Dr. Lea a *Unio*, a *Cyrena*, and a curious *Cyclostoma* which had spines. A few days afterward he dined with the Philosophical Club, where Sir Roderick Murchison presided. He requested Dr. Lea to take the seat on his right. The distinguished members present were Lyell, Carpenter, Forbes, Graham, Wheatstone, Sharpey, Sabine, Hoffman, Miller, Crosse, Hooker, Hopkins, &c. The president asked the secretary if he had anything to bring before the club. On rising the secretary said, "There is a gentleman present who, though a foreigner, can hardly be considered a stranger," and he hoped that Dr. Lea had something new which he could communicate to them. Dr. Lea then made some remarks on the two Saurians, descriptions of which he had published, relating to their position in the strata, one in the New Red Sand-

stone and the other below the Coal Measures in Pennsylvania Survey Formation No. XI. The remarks were attentively listened to. Sir Charles Lyell then stated his impression in regard to both. He gave Dr. Lea full credit for being the first and only one who had yet observed an air-breathing animal in so ancient a rock as that in which the *Sauropus primævus* occurred. He further stated that the *Clepsysaurus pennsylvanicus* was the first discovery of bones in the New Red Sandstone, although since Dr. Lea's discovery a jaw of a similar animal had been found, and he said he was entirely disposed to accord to the latter the credit of these two discoveries. Sir Roderick asked if any other gentleman had anything to communicate, to which Colonel Sabine answered that he had a curiously-shaped bottle picked up on the north shore of Siberia, and sent to him from St. Petersburg. He said that he thought that it had come through Bering Straits from Japan. Dr. Lea, having paid some attention to the voyages and currents of the Arctic Ocean, observed that that was certainly the best solution of the subject; that all the voyagers from the early Danish settlements to the present time demonstrated the course of the currents. After the discussion of other subjects of minor interest, the members divided into groups, and Dr. Lea had an interesting conversation with Sir Roderick, Dr. Carpenter, and Professor Forbes upon various matters of science. Sir Roderick expressed his regret in parting that he had not seen more of Dr. Lea, but that he had been absent during most of the time. Dr. Carpenter spoke of their mutual friends, Drs. Dunglison, Jackson, Wood, and Meigs. He said on parting that he was very desirous of visiting the United States, if anything offered by which he could increase his income; that a professorship in the College of Philadelphia would be very acceptable. Professor Sharpey, of Edinburgh, spoke of the excellence of Wood & Bache's works.

Calling at the Museum of Economic Geology, Dr. Lea found Sir Henry De la Beche busily engaged. He expressed much pleasure at seeing him again. While conversing with him a very old gentleman came in whom he introduced as Mr. Weaver. He was entirely deaf, and Dr. Lea had to write his part of the dialogue. He was ninety-one years old, was perfectly erect, and had a remarkably fine face. Dr. Lea was very much pleased to see him, for he was of the old school of science, and was a fellow-student with Humboldt. He was kind enough to say that he had heard in the hall that Dr. Lea was in the private room with Sir Henry, and he could not refrain from coming "to shake hands with one who had done so much for American science." He was in the early part of this century among the leading men of science in England, and was deeply engaged in the great battle of "Neptunist and Plutonist," which was waging at that time. He had understood that Dr. Lea had given some rare *Unionæ* to the museum, and expressed a desire to see them. Dr. Lea went to the cases, and explained to him some of the different species which had excited much

interest in London, particularly the *Unio spinosus*. In taking leave of Sir Henry a second time he again expressed his desire to serve Dr. Lea at any time, to procure for him any specimens or books which could be had. He requested Dr. Lea to send any of his friends to him, and taking his hand, said, "You must come again, and God bless you." It was with extreme regret that Dr. Lea parted with him. In the course of conversation about the leading men of science in England, among others Sir Roderick Murchison, he said that he was "a most valuable man in society, and a great promoter of science; that his connection with men high in position was very useful to science." Sir Henry said, "he never flinches from pushing science forward in places which otherwise it might not reach," adding that he was "full of science and very industrious." Dr. Lea went to the rooms of Professor Forbes, whom he found engaged in preparing some specimens of fresh-water and land mollusca from the Tertiary and Oolitic formations for him. In taking leave of Dr. Lea he expressed his regret at parting, and offered his services in every way that Dr. Lea would command. Mr. Bailey united with him in offering services. Sir William Hooker had been exceedingly kind to Dr. Lea's family, inviting them to Kew, where they spent a day with him, and saw many things to which the public were not admitted. William J. Hamilton, president of the Geographical Society, and Mr. Morris, the geologist, left several papers and offered services to Dr. Lea, expressing regret at his leaving London so soon. Before sailing from Liverpool Dr. Lea called to see Mr. McAndrews, who had made a large collection of mollusca, chiefly by voyages in his own yacht among other seas, and especially in the Mediterranean for seven months. He gave Dr. Lea many fine specimens, and some *Uniones* which were new to him, one of them from New Zealand. At Liverpool he met his old and kind friend William Rathbone, esq., who pressed him and his family to make their home with him at Green Bank, in the neighborhood of Liverpool. While there he invited several gentlemen to dine, among whom were Dr. Lea's old friends, Mr. Nuttall, the naturalist, and Mr. McAndrews, the conchologist. He was very glad to see the former, who still possessed that cheerful temperament and great fund of information which rendered him always a desirable companion. He told Dr. Lea at parting that he might see him in Philadelphia next year.

While at Liverpool Dr. Lea met at the hotel his friends, Colonel Powel, of Philadelphia, and Major Porter, of Georgia, who, he was glad to find, were to sail with him on the steamer Baltic. On November 2 Dr. Lea and his family went on board the fine New York steamer Baltic, in a gale in which no other vessel ventured out. Being unable to go down the Channel, the steamer laid her course round the north coast of Ireland. At the end of twelve days, through most terrific gales, the good ship landed her passengers safely at New York. Dr. Lea left behind him, with great regret, many kind friends, both in the social and scientific world, on the continent and in England.

CHAPTER V.

RETURN TO PHILADELPHIA.—EXTRACTS OF LETTERS ON SCIENTIFIC SUBJECTS.—CONTINUED RESEARCH.—PRESENT OCCUPATIONS.

Dr. Lea arrived in Philadelphia November 14, 1853, where he found the accumulation of correspondence and specimens during his absence to have been enormous. On these he set to work with vigor, but the inflow continued in such a regular stream that he was unable to diminish the material on hand, and some twenty-five years afterward, when he was suddenly taken ill in California, his cabinet was overcrowded with material awaiting his investigations. Many new correspondents, particularly from the Southern and Southwestern States, sent him collections of new mollusca, requesting him to name those that were new, and give them the names of all the species. Among these was the Right Rev. Stephen Elliott, bishop of Georgia, who, above all others, most abundantly supplied him with the mollusca of that State. The Bishop at that time was personally a stranger to Dr. Lea, but the beauty of the *Unionidæ* of his State had attracted his attention, and he applied to him requesting the favor of his correspondence. As Dr. Lea had been desiring a correspondent in Georgia for many years, this was gladly accepted, and it resulted in a warm friendship which lasted until the death of the Bishop. Shortly after this correspondence commenced he visited Philadelphia to attend the convention of the Protestant Episcopal Church, when Dr. Lea first made his personal acquaintance. He was enthusiastic in his pursuit of this branch of natural science, and told Dr. Lea in parting that he would have "every nook and corner of Georgia searched for him," and that he "would keep him busy for the next eighteen months in describing new species." This promise was more than fulfilled, and Dr. Lea was nearly three years occupied almost exclusively in describing and publishing Georgian species, one of the most beautiful of which he named *Unio Elliottii*, in honor of the Bishop. He induced many of his friends from distant parts of the State to collect specimens and send them direct to Dr. Lea. Mr. Couper of Darien, Mr. Hallenback and Dr. Boykin of Columbus, Mr. Postell of Saint Simon's Island, Dr. Stewardson and Mr. Plant of Macon, supplied a number of new species, and had their names given to new *Uniones*. The Bishop, when visiting distant parts of his diocese, where the mollusca in the small streams of the hill country differed from those of the broad rivers of the lowlands, collected specimens which generally proved new. From time to time for many years he sent Dr. Lea the included soft parts of

the animals, as may be seen in his acknowledgments, where the species are described in the "Contributions" through many years of publication.

On Dr. Lea's return home he found that Mr. Conrad had published a "Synopsis of the family of Naiades of North America" in the early part of the year, which was full of errors both of date and facts. These were all stated in Dr. Lea's "Rectification,"* published immediately on his return, in order to correct any false impressions they might have given. He likewise found that Mr. Say had also published a short list of the species, in which he differed much from Mr. Conrad, but he did not give Dr. Lea a single species. Subsequently Judge Tappan, United States Senator, who took so much interest in the Western *Unionidæ*, told Dr. Lea that Mr. Say had expressed great regret at the course he had taken against Dr. Lea. Dr. Kirtland, State geologist and zoologist of Ohio, wrote him a letter in the year 1853, in which he says:

> Your "Observations on the genus" show that you are still actively engaged in that interesting subject, but your new edition of the Synopsis is to me still more interesting. It forms a perfect hand-book for the naturalist who would investigate this inviting department.
>
> Twenty-five years since I was laboring with the Mahoning River shells, aided by Barnes's article in the sixth volume of Silliman's Journal; two numbers of Say's American Conchology, and his article in Nicholson's Encyclopedia. What an insight into their arrangement would your synopsis have rendered! Now, my good sir, allow me to urge you to go on, and accomplish what no one else can do, publish a revised edition of all your shells and their descriptions. This would place the subject before the scientific public and arrest the attempt of foreigners to seize upon the credit which belongs to you. Such a work would also be forever invaluable as a standard of reference.

In a previous letter Dr. Kirtland writes that he is particularly pleased with Dr. Lea's arrangement in the synopsis and will follow it in his report to the State. "It is altogether preferable to anything of the kind that has come before the scientific public."

In fact Dr. Lea had intended to publish a complete work on the *Unionidæ* of the United States, and had informed Professor Owen previous to his leaving London of his intention, and that he was willing to devote three years' time and $5,000 to its accomplishment. Having a good lithographer at command, he had two quarto plates made of the old and young of *Unio multiplicatus*, together with the embryonic form. But new species came in so fast from various parts of the world, and particularly from numerous friends of the Western and Southern States, that it precluded his doing more than describing them. Only a few proof copies of these fine plates had been struck off when a fire took place in the lithographer's establishment, and they were entirely destroyed. Dr. Lea was constantly occupied with his scient fic researches, and continued his publications in the Proceedings and Journal of the

* This was read before the Academy of Natural Sciences of Philadelphia, and published in its Proceedings.

Academy of Natural Sciences, to which he was a constant contributor for more than twenty years, until 1877, when a sudden illness, which overtook him in Southern California, prevented his usual activity. He was still able, however, to continue adding to his vast collection, through the kindness of friends and by purchase, of fine specimens of minerals, particularly *quartz crystals*, every specimen of which he has examined with the microscope, and described on the label. The inclusions, and markings on the planes of each, when important, are drawn and stated.*

It will be seen by looking over his bibliography that after his return from abroad he was engaged in other branches of natural history. Biology and paleontology claimed his attention. The embryology of the *Unionidæ* was treated in an important memoir in 1858,† in which he gave descriptions and figures of thirty-eight species, accurately delineated by himself and formed into groups. Some of these species present the most singular and interesting microscopic forms, showing characters which Poli, Carus, and Pfeiffer, in the few which they had given, had overlooked.

Among other works he published in 1854 his elephant folio edition of "Foot-Marks," near Pottsville, which as a specimen of the typographic and lithographic arts has no superior, and the importance of the discovery of the "foot-marks" will be understood by a few extracts from the many letters he received on its publication. The following are from Professor John Phillips, of Oxford (of the chair of the celebrated Dr. Buckland), from Rev. Adam Sedgwick, and other friends:

OXFORD, *November* 6, 1855.

* * * I am greatly delighted with the admirable drawing and description of the foot-prints which you have kindly presented to me.

It is unique in the beauty of the execution and characteristic of the generous spirit which is so common among your countrymen, so far as I know them by their welcome visits here.

Pray send over as many of your friends as you can to maintain amity between Old and New England. * * *

JOHN PHILLIPS.

CAMBRIDGE, *April* 13, 1856.

MY DEAR SIR: I have this moment received your very kind letter, for which I return you my best thanks, and I am very grateful to you for the work to which you allude, "The Fossil Foot-Marks."

My health is at present anything but good. I am the victim of suppressed gout, which destroys my power of work, and makes even an ordinary task irksome to me. I will write immediately to my London publisher and request him to send you the second fasciculus of the Cambridge work through the agent of the Smithsonian Institution, my friend Rev. H. Stevens. My head is in too much confusion for any enlarged discussion, but I agree with you about the difficulties of the Old and New Red Sandstone.

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* Prof. H. Rosenbusch says in his Mikroscopische Physiographie der Wichtigen Mineralien: "Dr. Lea was the first in America to enter into 'microscopic mineralogy.'"

† Journal of the Academy of Natural Sciences, Philadelphia, 1858.

My belief is that we shall in the end have to put the Old Red Sandstone of England in the same chapter as the upper or true English Silurian group. The Permian, Pomfret, or Magnesian limestone series (the Zeckstein of the German) is physically better related to the Triassic groups than to the Carboniferous, though the fossils seemed to point the other way.

I am now seventy-one years of age, and bad health makes me unfit for hard field-work.

I am ashamed to send you such a shabby letter; but I wish not to miss the early post of this day in order that I may correct the mistake or laziness of my publisher.

I assure you that I am with great respect, my dear sir, very truly and gratefully yours,

A. SEDGWICK.

BOSTON, *May* 14, 1855.

* * * Your magnificent work on "Fossil Foot-Marks," I have this day received, and have already distributed a number of the copies. The honor you have done me in dedicating to me so noble a work is one of the most gratifying circumstances of my life, though I cannot feel worthy of it. Coming as it does from one who has so long and so ably distinguished himself by his scientific labors, however, it is, whether well founded or not, a high gratification. * * *

Very respectfully, your friend,

J. C. WARREN.

CAMBRIDGE, MASS., *May* 17, 1855.

* * * I have read with great interest your memoir in the Transactions of the American Philosophical Society, and have been not a little surprised at the position assumed by Agassiz in describing your specimens as well as in the lectures which he has recently given here. I cannot conceive that he has been led to his conclusions by anything else than a foregone decision. The anatomical evidence seems to me unmistakable. I am still more inclined to think that he has prejudged the matter since, a few days ago, he pronounced (not knowing their geological position) the specimens now before me as foot-prints of reptiles (as those of toads), and seemed rather taken aback when I told him they were from coal strata.

I feel that some apology is due for the liberty I have taken in addressing you without personal acquaintance, but I trust you will be ready to pardon in the great interest which attaches to the subject of early reptilian life, the evidence in relation to which is so fast accumulating that I believe it will command the assent of the most sceptical to a position as low as the coal and even to the Old Red Sandstone. * * *

With great respect, truly yours,

JEFFRIES WYMAN.

PHILADELPHIA, *May* 21, 1855.

MY DEAR SIR: I am in receipt of your letter of the 17th, and beg to assure you that it will give me great pleasure to afford you any information in my power.

I know of nothing new from the Red Sandstone of Pottsville since Professor Rogers's communication to the American Association at Albany, except that Dr. Leidy last summer found a small bivalve in the Tumbling Run dam, which, however, he mislaid and did not come across again until about two weeks since, when he handed it to me.

I was preparing a paper on it when your letter was handed to me. It will appear in the Proceedings of the Academy of Natural Sciences.

I am very glad to find that Professor Rogers's specimens are in such good hands, for I feel assured that you will do justice to all. I hope you will do me the favor to read carefully what I have said in the memoir in connection with the geological position of those "foot-marks." You will understand that although Professor Rogers said that these "foot-prints" are of "an age essentially later than that attributed to them,"

that there is really no difference of opinion between us as to their being in his "Red Shale" (Formation No. XI), as I expressly stated in my description, the spot being laid down to the foot, taking his own measurements as to the thickness of the strata there. The difference is not as to a geological error on my part, but whether his "Red Shale formation" (Formation No. XI) be part of the Old Red Sandstone or not. In this I followed the opinion of Mr. Taylor, Mr. Hall, Mr. Vanuxem, M. de Verneuil, &c.

The expression on the part of Mr. Rogers in regard to the position of these "foot-marks" I always thought was disingenuous in reference to me, and certainly unjust; because it was intended to detract from any merit that the discovery might give me, when there could really be no doubt as to the position of the "foot-marks" being *two* formations below the Coal formation, No. XIII, and in his Formation No. XI, "Red Shale formation."

I therefore have not modified my views, because we have had no additional geological evidence calculated to change the opinions of the distinguished geologists above mentioned. They may all prove wrong, but we must have the facts to show it.

I am not at all surprised at what you say of Agassiz's opinion regarding the "foot-marks." His second attempt at this organism is almost as bad as the first. There is a wide difference between a *fish* and a *toad*. He has oscillated to an extreme point now, and will doubtless have to come down to the Saurian point; nothing else will do, I am sure, for my "foot-marks."* I should like much to know what he has said in his lectures regarding them. Pray, have they been printed or reported?

If you intend to refer to reptilian life in the Devonian of England, *Telerpeton elginense* Mantell, you will find a note in my new folio edition of the Memoirs, p. 13, by which you will see there is some doubt as to that formation. I will send you a copy of this edition with great pleasure as soon as I get some from the binder. In the mean time you may see it in the Cambridge Library or at Dr. Warren's. Had I had the pleasure of your acquaintance before I certainly should have sent you a copy in the box with those for other friends. I suppose you have seen my memoir on the fossil saurian of the "New Red," published in the second volume of the Journal of the A. N. S. I will do myself the pleasure to send you a copy.

I shall probably go to Pottsville in a week or two, having business there with tenants working coal-lands. I have been anxious to examine the localities east and west of that where I first found my specimen. I need not say that it would give me great pleasure to show you this specimen or anything else I have, and it will at all times gratify me to be able to promote the views of one who has done so much for science as yourself.

I am, very truly and sincerely, yours,

ISAAC LEA.

Prof. JEFFRIES WYMAN.

CAMBRIDGE, MASS., *June* 7, 1855.

* * * Your kind letter of May 21 was duly received, and I thank you for the information which it contained. It so happened that on the day following the date of my letter I had an opportunity of seeing your admirable monograph at the rooms of the Boston Society of Natural History.

The specimens which are now in my possession contain the tracks of a much smaller animal than those figured in your memoir. In fact I have two species, the natural sizes of which may be seen in the figures below, which are somewhat exaggerated in point of distinctness as regards the larger species. I think Agassiz will not again

*Is it not singular that he should, over the same specimens, give such different opinions, so far removed from each other? He saw Professor Rogers's specimens at Albany and pronounced them fish; he now sees the same with you and pronounces them toads.

avow his belief, certainly will not quite so roundly object, that all those who have described the remains of reptiles from the Coal Measures have been mistaken. I felt somewhat personally interested in the position which he assumed, as I had in connection with Professor Owen described some reptile remains taken by Sir Charles Lyell from the interior of the hollow coal-tree, but which Agassiz claimed as fishes. As regards the *Sauropus* and those foot-prints now before me, they give him no chance for a retreat, but only an unconditional surrender. In his lectures and scientific communications to the American Academy he has made allusions to the coal reptiles, but I am not aware that he has made any special reference to your labors; but he has included all of us in one category of mistaken naturalists. I am not aware that anything has been published by him bearing upon the subject. Since I have examined your admirable plate I am more surprised than ever at the opinion he expressed with regard to the nature of the prints.

I am very much obliged to you for your kind offer to send me a copy of your memoir. I should certainly prize it very highly. * * *

With great respect, truly yours,

JEFFRIES WYMAN.

CAMBRIDGE, MASS., *July* 6, 1855.

* * * Please accept my sincere thanks for the scientific memoirs which you had the kindness to send me, and which have this day come to hand through our mutual friend, Dr. Warren.

I believe the plate of the tracks of *Sauropus* is wholly unsurpassed in the annals of paleontology, and the scientific world is certainly very much indebted to you for the results of your labors. * * *

Believe me, truly yours,

JEFFRIES WYMAN.

CAMBRIDGE, MASS., *November* 26, 1855.

* * * Our friend Professor Agassiz has just been lecturing on the animals of the Coal formation, and now admits that reptiles *did* exist then, but were of a *very low* kind of reptiles. This eases the matter off a little, but my belief is that he will be obliged to go deeper and admit more than he is willing to do now. * * *

With great respect, truly yours,

JEFFRIES WYMAN.

CAMBRIDGE, MASS., *March* 9, 1858.

Your favor of the 27th ultimo came duly to hand, as well as the copy of your new contribution to the natural history of the genus *Unio*, for which I beg you would accept my sincere thanks. I am afraid I shall not be able to visit Philadelphia at present, as my duties in college seem to require that they should not be interrupted until another vacation.

We have just entered our new building, which was in the process of erection when we had the pleasure of a visit from you last summer. The first exercise took place in it yesterday. My anatomical collection is finely accommodated, and with our mastodon for a center-piece the hall looks quite imposing.

I send herewith a copy of the description of the *Batrachian* fossils from the Coal of Ohio. I think that the accumulated evidence of reptilian life which existed at the Coal period is such that no question will be raised hereafter, unless it be with regard to the *kind* of reptiles. Agassiz admits that *Batrachians* existed; he is disposed to put them in a *class* by themselves, and thus occupying a place next to fishes, instead of forming an *order*, as in the Cuvierian system.

I hope I shall be able to visit Philadelphia at no very distant period, there is so much there that I should be glad to look over, and so many good friends to visit. Please make my kind regards to Dr. Leidy and to Dr. and Mrs. McClellan when you see them.

Sincerely yours,

J. WYMAN.

[Extract from Monsieur Boivin's letter.]

PARIS, 1856.

I have received with great admiration your magnificent work of the imprints of the feet of your *Sauropus primævus*. It is interesting from two different points of view, viz, the subject as well as the execution. The lithographic plate is truly a *chef-d'œuvre*, and the paper is of an admirable fabrication. Young America can compete with advantage with old Europe.

Your devoted, &c.,

A. BOIVIN.

VIENNA, *December* 4, 1857.

* * * We just received a new expedition of the Smithsonian, and along with it I was particularly favored by the kind gift I owe to yourself, that standard classical work on the genus *Unio* and other fresh-water molluscs, for which science is indebted to your unremitting zeal and studies for so many years in that department of natural history.

I return you, therefore, my most sincere thanks for myself as well, who was distinguished even by a colored copy, as also for our Geological Institute.

Also your past letter came to hand as well as other valuable works of lesser compass, and I hope by this time you have received my letters of thanks and acknowledgment through the last expedition of ours to the Smithsonian Institution, with the letters date of 19th of August, 1857. It is true, for letters this conveyance is somewhat slower, but for all, it is invaluable for that steady mutual intercourse for scientific purposes in which the Smithsonian, and in fact the United States, stand unrivaled; and the most friendly intercourse is certainly above all preferred by scientific investigators. We admire with great good heart all that is achieved on the other side of the Atlantic, and that has pushed forward our knowledge most materially. We often talk over your visit in Vienna. Unfortunately I had to keep my house for being unwell. Poor Heckel has since left us forever, a very great loss for his friends as well as for science. Our friends, Von Haur, Hörness, Swess, beg to be remembered. Poor Partsch having died last year, he was succeeded in the direction of the Imperial Mineralogical Museum by our so highly deserved friend, Dr. Hörness.

Mr. Swess (who is married, by the bye, to a sister of Dr. Hörness and niece of Mr. Partsch) is now delivering a course of lectures on paleontology in our university.

As to our Geological Institute, we are getting on, it is true, but rather too slowly, if I compare what is really done with what I might wish to see. We are working with too many "difficulties" as I might call them, not a few of them owing to a want of that most characteristic saying of yours, "going ahead;" for myself, I begin feeling rather tired, particularly as I was far from well all last summer and autumn.

We just received also for the Geological Institute those wonderful "Kane's Arctic Explorations," in the second Grinnell Expedition. It will be a standard work forever for raising men's minds to the most arduous tasks of duty, and to confidence in that Almighty Power which saved this heroic endurer and his men.

What loss for humanity in his premature death!

Yours, truly and devotedly,

WILLIAM HAIDINGER.

OXFORD, *July* 16, 1849.

MY DEAR SIR: I am much gratified by your very interesting letter inclosing a brief summary of your discovery of foot-marks in Old Red Sandstone, and shall have great pleasure in laying this notice before the next meeting of geologists in England, which, as the London sessions are now closed until November, will be at the Birmingham meeting of the British Association in the middle of September, when Professor Rogers will be present. This will give the most rapid and most general announcement of your discovery which is now possible. There is time for you to inform me if you approve of this proposal, and if you do it would add much to the interest of your

memoir if you would send me a slight fraction or outline sketch of the line of footmarks, which will make the case more intelligible than ten pages of verbal description.

Hoping to hear from you before the 12th of September, I am, very truly, yours,
WM. BUCKLAND.

From this period Dr. Lea continued his investigations. His papers in full may be found in the Proceedings and Journal of the Academy of Natural Sciences, and attention is called to some of the most important: "On *Centemodon sulcatus*"; "*Cypricardia Leidyi*," the only mollusk found in the Red Sandstones near Pottsville; "Remarks on *Triquetra contorta*"; "On Vision in the *Unionidæ*"; "Observations on the Geology of the New Red Sandstone near Gwynned, Pennsylvania"; "Remarks on Trilobites found at Braintree, Massachusetts"; "Remarks on the Existence of a *Byssus* in the *Unio*"; "On the Permian of Gwynned" (to which formation he was the first to assign it); "On the Greensand Formation of New Jersey"; "On both lobes of the branchia on *both sides* charged with embryonic shells, and *red ova* in several species"; "On the reversed teeth of *Unio*"; "On the form of the Palpi of South American *Unio*"; "On the visual and auditory organs of the *Unionidæ*"; "Notes on some members of the Feldspar Family"; "On new minerals from Chester County, Pennsylvania"; "On Microscopic Crystals included in some minerals"; "Further notes on Microscopic Crystals in some of the Gems"; "Further notes on 'Inclusions' in Gems," &c.

In addition to these there are innumerable papers during a long succession of years (1827–1874), on new species of the *Unionidæ*, *Strepomatidæ*, *Colimacea*, &c., which were published in the Bulletin and Transactions of the American Philosophical Society, and the Proceedings and Journal of the Academy of Natural Sciences of Philadelphia.

The number of new species, mostly from the United States, were:

Species.	No.	Species.	No.
Unio	731	Valvata	1
Anodonta	114	Anculosa	21
Margaritana	27	Amnicola	3
Symphynota	11	Schizostoma	20
Spatha	4	Basistoma	1
Plagiodon	1	Goniobasis	175
Monocondylœa	9	Lithasia	13
Triquetra	1	Strephobasis	7
Iridina	1	Tripanostoma	71
Succinea	17	Neritina	1
Auricula	1	Mycetopus	2
Cyclostoma	4	Eurycælon	1
Physa	32	Maseschiza	1
Lymnæa	28	Megasystropha	1
Melania	184	Pompholyx	1
Io	10	Ancylus	2
Melanopsis	2	Rivulina	1
Cyrena	4	Bythinia	2
Aphrodite	1	Assiminea	1
Helix	30	Pachychilus	1
Carocolla	5		
Helicina	3	Total	1,604
Achatina	3	Fossil mollusca described in "Contributions to Geology"	228
Paludina	27	Fossil *Unionidæ* described from Greensand formation	10
Ampullaria	6		
Polygyra	2	Total	1,842
Bulimus	12		
Megaspira	1		
Planorbis	7		

Of embryonic forms of *Unionidæ* there are thirty-eight species described and figured. Of soft parts of the *Unionidæ* there are two hundred and fifty-four different species, and these are preserved in thirty-four large glass jars in alcohol. In the thirteen volumes quarto there are two hundred and eighty plates.

A few letters and extracts of the many received from his correspondents may prove interesting in connection with his work referred to in them:

NEW HAVEN, *December* 21, 1860.

MY DEAR SIR: Your very kind recollection of an old friend is gratefully acknowledged.

In addition to numerous favors of an earlier date, I have now to thank you for your beautiful continuation of the description and figures of the *Unionidæ* of the United States and Northern Mexico, Vol. 8, Part I, with 16 plates. The figures are very beautiful, and no doubt exact as beautiful.

Your intelligent perseverance with consummate skill and taste have reared a brilliant monument in this part of conchology, not to mention your always valuable memoirs on other topics.

With every good wish, and a grateful sense of your unremitting kindness to me, I remain, my dear sir, with much esteem and kind regard,

Your obliged friend and servant,

B. SILLIMAN.

TO ISAAC LEA, Esq.

[Extract from Silliman's Journal.]

"Mr. Say still continues to devote his attention to the *Uniones*, as appears from the numbers of the American Conchology published at New Harmony. Dr. Hildreth, of Marietta, has also contributed his share toward the elucidation of the *Naïades*. But the papers of Mr. Isaac Lea, in the Transactions of the American Philosophical Society, stand pre-eminent among all the labors of this kind, both for extent and nicety of discrimination. This gentleman has explored, in person, their localities, and has had the good fortune to receive, from time to time, the most abundant supplies of them from his friends resident at the West, so that his cabinet, as all can testify who have examined it, illustrates the different species in a high degree of completeness, containing individuals of all ages, and from distant localities, and those which exhibit also the various accidents under which they are liable to occur. Nor have his examinations been confined to the mere shells and dead animals; he has preserved the same individuals alive under his eye for months, and the observations he records concerning their habits and anatomy are extremely interesting and original."

BRITISH MUSEUM, *London*, *March* 7, 1861.

DEAR DR. LEA: I have been favored by a copy of the first part of your eighth volume of the work embodying your life-long labors on the *Unionidæ*, and return you many thanks for that and its predecessors. You have set a noble example of persevering devotion to the elucidation, and making known to your fellow-men, of the portion of God's creation selected by your judgment, taste, and opportunities for your studies. You will leave a grand and enduring monument of what one man may accomplish under such conditions, and I trust you may enjoy many years cheered by the retrospect of past labors, and by the grateful estimation in which they are held by the naturalists and lovers of science in both hemispheres.

Believe me to be, with much esteem and regard, yours, most truly,

RICHARD OWEN.

BRITISH MUSEUM, *February* 21, 1871.

DEAR DR. LEA: I have been favored by, I believe, every evidence of your most valuable and untiring labors on the *Unionidæ*, and none more do I value than the volume I have just received, your admirable and instructive "Synopsis," quarto, 1870. I thank you most sincerely for these indispensable bodies of instruction in my library of reference, and for the kindly, friendly, spirit in which they have been transmitted. They represent a kind or class of labors, the most genuine and important, and lasting, in the hard endeavor to gain a knowledge of nature. They worthily represent that "positive work" which Cuvier held in such high esteem.

More catching popular essays occupy the thoughts of the passing generations, but these will vanish along with them, while your fruits of close and long-continued observation will endure, and carry down your honored name as an exemplar to the young and genuine students of nature. As I have often thus thought of you and your works so am I happy in now expressing them, while we may be spared to interchange thought and friendly regard on this fleeting scene of life.

Believe me, truly and sincerely yours,

RICHARD OWEN.

VIENNA, *June* 28, 1871.

MY DEAR SIR: On the 10th of January I received through the Smithsonian Istitution and our own Imperial Geological Institute your concluding index to the twelfth volume of that grand work, "Observations on the Genus *Unio*." Pray, do kindly accept of my most heartfelt thanks for that work, really of the most uncommon value, the complete twelve volumes, which you kindly sent both to our Geological Institute and to myself.

Well may you exclaim now with old Horace, "Exegi monumentum," &c., and that will last so long as natural science shall be cultivated by mankind. The more it is compared and studied the more appears your power of observation, your efforts in pursuing your object, your steadiness and perseverance. During the long series of years you did not tire sending me so many valuable contributions, by yourself, by Mr. Henry Lea, by Mr. Carey Lea, for many of which I have been guilty of having tendered too seldom, or even no acknowledgments at all. Pray, do now kindly accept of a sum of them, along with the thanks for your last index. Well may you consider this as a jubilee, fifty-three years having now gone by since you published your "Account of the Minerals at present known to exist in the vicinity of Philadelphia," in the Philadelphia Journal Academy Natural Sciences, I, 1817, pages 462–482, as I find commemorated in the "Catalogue of Scientific Papers, 1800 to 1863," this memoir opening the series of one hundred titles, pages 898–902, in the third volume of that work edited by the London Royal Society.

From mineralogy, geology, natural philosophy, you first entered into the steady study of your *Unionidæ* and other allied species, not to leave them more till your beautiful monument was completed.

I am not permitted to speak of advancing years to you, who rather are my better, but, indeed, since my serious illness in the winter of 1865 to 1866, and my retirement from the office of director-general of the Geological Institute, my state of health is rather lower than I should wish.

When again comparing the twelve volumes I also turned over again, with delight, your old kind letters, beginning with your stay in our good city of Vienna in 1853, along with your most honored family, Mrs. Lea and Miss Lea. I hope you all continue well. Of our old friends of 1853, in Vienna, Franz von Hauer, Fraunfeld, Swess, are successfully at work, and well; poor Partsch died in 1856, and a very great loss was that of my particular, most excellent friend Hörnes, on the 4th of November, 1868.

Please to remember me to all your family and friends.

Ever most truly yours,

W. HAIDINGER.

PARIS, *February* 11, 1860.

MY DEAR SIR: A thousand thanks for the parcel which you have had the goodness to send me, consisting of the second part of volume 6 of your observations on the genus *Unio*, and the pamphlet which accompanied it.

Your work upon the *Unio* is certainly the most beautiful and complete which we have upon this magnificent genus, and I might say the only one, for I do not count as anything the article which M. Chenu has given in his "Conchological Illustrations," where he has copied your figures, and has also depended on you for the text. You render a great service to science in devoting your time to the classification and description of the *Unio*. I trust that Heaven will give you a long life, both for your sake and our own.

With the warmest expression of my attachment, I am, yours, most sincerely,

A. BOIVIN.

Dr. Lea's cabinet of *Unionidæ* consists of horizontal cases in two large rooms, in which cases there are displayed to view about ten thousand individuals, of different ages, so arranged that each may be separately examined. In fact, this collection is unique in having many species arranged with a sequence from the youngest to the oldest, so that the student may see at a glance the aspect of their growth.

Thus a suite of differerent ages may consist of a dozen or more, no two being exactly the same.

Where the female differs in outline from the male there is also a suite of ages which generally marks the age of puberty. A suite of aberrant forms is also given, so that there may be fifty specimens of a single species, there being no two exactly the same. The whole of this collection is arranged on grooved wooden slats, with the left valve underneath, the anterior part to the right, and the beaks uppermost, thus giving a comparative view of the outline of one species with another. He began this collection in 1825, and has continued adding to it unremittingly to the present time. It is so complete that if all the collections known were selected from, one similar to it could not be made. The collection of fresh-water univalves is also large, consisting of several thousand. The collection of fossils is classified and placed in stratifications from the Archaic to the Tertiary formations. His collection of land shells is also very extensive, consisting of many rare species from almost every part of the globe, and that of marine mollusca is large and complete, containing, as it does, many rare genera and species.

Dr. Lea's first memoir of that remarkable series on the *Unionidæ*, &c., was published in the Transactions of the American Philosophical Society in 1827, vol. 3, new series, and were continued in vols. 4, 5, 6, and 7. Subsequently he published them in the Journal of the Academy of Natural Sciences until 1876, when they were discontinued (owing to illness). He had printed for his own use two hundred and fifty copies, forming thirteen volumes, with three indices. These were gratuitously distributed to scientists and to learned societies.

Dr. Lea has preserved all his scientific correspondence since 1818, and these numerous letters show the development of fresh water and

land mollusca of the United States, he being universally the acknowledged authority on these families of mollusca.

The most distinguished authors who have written on the subject of the divisions of the *Unionidæ* have acknowledged the difficulty of the subject. The true definition of a species has much engaged his attention, and he has in his synopsis endeavored to express his idea of what constitutes a species in the following words:

> A species must be considered a primary established law, stamped with a persistent form, a type, pertaining solely to itself, with the power of successfully reproducing the same form and none other.

Dr. Lea has always held that the chief work of scientific societies is in connection with their publications, because these reach all similar bodies, and through them scientists, wherever science is cultivated. The gathering of materials for a collection is necessary, although that is of secondary importance. In regard to the date of papers, he always considered that the day of reading and presenting the communication to a society, and depositing it, was the only reliable date, as from that time the paper was in the possession of the society and could not be changed.

This has been the usage with most of the learned societies of Europe, although in this country some societies adopt the rule of issuing printed descriptions as necessary to precedence.

All Dr. Lea's papers, from first to last, were printed exactly as they were read and presented to the Academy of Natural Sciences and the American Philosphical Society during a period of fifty-nine years, except two specific names which had been used before. These he requested permission of the society to change.

The great use to men of science of the Smithsonian Institution is universally acknowledged. It has been the medium of communication between learned societies throughout the world, both in facilitating correspondence and interchanging publications. To Dr. Lea it has been of great assistance from its establishment to the present time. Its constant and safe conveyance of all his numerous memoirs, and the return of those of various authors by thousands, have been accomplished without a single loss. Thus the Zoological Society, of London, has sent him all its Proceedings from 1831; the Asiatic Society of Bengal since 1835; and the Imperial Royal Geological Society, Vienna, from 1853. Professor Haidinger says in one of his letters:

> It is invaluable for that steady mutual intercouse for scientific purposes, in which the Smithsonian, and in fact the United States, stands unrivaled. And the most friendly intercourse is certainly above all preferred by scientific investigators.

Dr. Lea was accustomed to pass his summer, for many years, in Chester County, so rich in its various minerals. In that and Delaware County, with his friends, Dr. Hartman, Mr. Jefferis, and Mr. Joseph Willcox, many localities were searched, and some new ones discovered. Dr. Lea found several new minerals which he called *Cassinite, Patersonite, Les-*

leyite, *Lenuilite*, and *Delawarite*, an account of which Dr. Genth, State geologist, has given in his reports.* The two last-named he considers are varieties of the same mineral. Dr. Lea was the first to discover that interesting and rare mineral, *Diaspore*, in Pennsylvania. He found it on the farm of Mr. Lesley, and has the largest crystal on record, measuring 4 inches in length.

His intimacy with Admiral Wilkes made him acquainted with all the proceedings of that remarkable expedition, and he frequently advised with Dr. Lea in regard to the vast collection of natural history which was made by the naturalists in charge. This friendship continued until the death of the admiral. Dr. Lea has scores of long and confidential letters from him.

When the late Dr. Bigsby, the eminent geologist, visited this country about 1830, he passed the winter in Philadelphia and was a frequent guest of Dr. Lea. Subsequently he was engaged in the practice of medicine for twenty years at a distance from London. Resigning his practice he engaged with enthusiasm in his favorite science, and produced those elaborate works on geology which established his reputation, and his correspondence with Dr. Lea was again renewed. The late J. Gwyn Jeffreys was also a visitor at Dr. Lea's when in this country and spent several days with him. He was the best conchologist of his time in England, and distinguished for his writings on English mollusca.

Dr. Lea was president of the Academy of Natural Sciences of Philadelphia from 1853 to 1858, and filled other official positions more than half a century. He was vice-president of the American Philosophical Society for several years, and was chairman of its two principal committees (publication and finance) until his second visit to Europe, when he resigned the offices.

In 1860 he presided at the meeting of the American Association for the Advancement of Science, and five years afterwards, at Buffalo (there being no meeting during the war of the rebellion), he retired in favor of Dr. Gould, the astronomer, who was appointed to succeed him.

Dr. Lea is one of the largest contributors to science in this country; he began publishing his papers in 1817, and the last contribution of importance was issued in 1876, embracing a period of fifty-nine years of active research.

Although in his ninety-fourth year, he is blessed with good health, and his mental and physical faculties continue unimpaired. His deep interest in scientific matters was recently manifested by inviting the members of the American Association for the Advancement of Science, and their guests of the British Association at the meeting in Philadelphia in September, 1884, to visit him at his summer residence at Long Branch, where he had the pleasure of receiving and entertaining about two hundred members.

*Second Geological Survey of Pennsylvania, B, pp. 93 and 224.

He no longer writes with the intention of publishing, but his microscopical lithology, particularly of inclusions in crystals, of which he has a most extensive collection, is his almost daily employment, making the most minute drawings on the labels, which are written by his own hand.*

His cabinet of quartz crystals consists of nearly one thousand specimens, and corundum crystals nearly five hundred. His collection of the mica group is the most extensive in the country, consisting of thirty-five drawers. In addition to the collection of the large mica group, Dr. Lea has several hundred sections of lamina prepared for the microscope, with notes regarding their inclusions; these consist chiefly of muscovite, phlogopite, clinochlore, biotite, jefferisite, hallite, &c., and were intended for publication, but he had not the opportunity of writing the descriptions.

He was the first geologist who found fossil remains in the limestone (Formation II of Rogers) of Chester County, and subsequently in the same limestone of Bucks County, from the same formation, whence he obtained trilobites, &c.

Dr. Lea's love of nature was intensely strong. It began in early life, increased with his years, and at the present time engages the most of his attention.

The wondrous productions of the Great Creator are evidence to him of the wisdom and design which always prevail throughout His works.

In all his scientific researches his brilliant and accomplished wife always evinced the deepest interest. She was indeed his constant companion until the year 1873, when, after an illness of fourteen years, she was called to her heavenly rest.

Mrs. Lea had studied thoroughly the trees of this country and of Europe. Mr. Nuttall said she was better acquainted with American trees than any American botanist, and Mr. Michaux, who was a frequent visitor during their stay in Paris, in 1852 and 1853, was surprised to find a lady who was so thoroughly acquainted with his own and his father's works on the trees of North America.

Dr. Lea's numerous contributions to science have been universally recognized by the best scientists at home and abroad, as of great importance on the various subjects which he has published. The issues of the Academy of Natural Sciences and the American Philosophical Society for sixty years justify this, and these publications have been acknowledged by numerous learned societies, they having conferred their honors upon him, as the following list will show: ex-president Academy Natural Sciences; vice-president American Philosophical Society; doctor of laws from Harvard University in 1852; honorary member Asiatic Society, Bengal; member Royal Physical Society,

*A few of these may be seen in his three papers, "Notes on microscopic crystals," the plates of which were drawn by himself exhibiting surface markings and inclusions.

Edinburgh; member Linnean Society, Bordeaux; member Imperial Society, Moscow; honorary member Boston Society Natural History; member Royal Academy Sciences, Turin; honorary member Royal Zoological Society of Ireland; member Zoological Society, London; honorary member Manchester Natural History Society; member Royal Northern Antiquarian Society, Copenhagen; honorary member Physical and Natural History Society, Geneva; member Geological Society, Berlin; member Natural History Society, Athens, Greece; member Société Polytechnique, Paris; member Société Impériale des Sciences Naturelles de Cherbourg; member Imperial Royal Zoological and Botanical Society, Vienna; member Imperial Royal Geological Society, Vienna; member Natural History Society, Wurtemberg; member Société Paleontologique de Belgique; member Natural History Society, Montreal; ex-president and fellow American Association for the Advancement of Science; member British Association 1832 and 1853; honorary member Historical Society, Buffalo, N. Y.; honorary member California Society of Natural History; member New York Academy of Science, &c.

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1827. LEA, ISAAC—Continued.

ber, 1827. (See *Rectification of T. A. Conrad's Synopsis, etc.*, *Proc. Amer. Philos. Soc.*, vii, p. 242, foot-note.)

Mr. Sabin gives a separate for 1827, 8°. (See No. 10.)

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Hab.: fresh waters of the south of Asia. (?) Brought from Canton by Captain Barr.

Symphynota alata (Say), Lea 448
Hab.: Our western waters.

Symphynota complanata (Barnes), Lea 449
Hab.: Fox River, Mr. Schoolcraft; Wisconsin, Captain Douglass; Ohio, W. Cooper.

Symphynota compressa, Lea, n. s., pl. xii, fig. 22 450
Hab.: Ohio, T. G. Lea; Norman's Kill, near Albany, Dr. Eights. *Proc. Amer. Philos. Soc.*, ii, pp. 237, changed to *Unio pressus*.

Symphynota gracilis (Barnes), Lea 452
Hab.: Ohio, T. G. Lea; Wisconsin, Mr. Schoolcraft.

Symphynota tenuissima, Lea, n. s., pl. xi, fig. 21 453
Hab.: Ohio, T. G. Lea.

Symphynota ochracea (Say), Lea 455
Hab.: Schuylkill and Delaware.

Symphynota cygnea (Linn), Lea 456
Hab.: Rivers and Lakes of Europe.

13.

1829. LEA, ISAAC. Observations | on | the Genus Unio, | together with | Descriptions | of | Eighteen New Species; and of the Genus Symphy- | nota, now separated from the family of | Naïades, containing nine species. | Read before the Am. Philos. Society November 1827 & March 1829, | and published in their Transactions, Vol. III, N. S. | By Isaac Lea, M. A. P. S., M. A. N. S., &c. | Philadelphia: | Printed by James Kay, Jun. & Co. | 1829. 4°. pp. 71, pls. iii–xiv, colored.

This consists of numbers 9 and 12, repaged from 1 to 71, and with the same plates that are used in the Transactions. Published according to the title-page in 1829.

14.

182–. LEA, ISAAC. Short Reviews and Notices of Nuttall's Travels. Captain Franklin's Travels, etc. < *National Gazette.*

15.

1830–31. LEA, ISAAC. Observations on the Naïades, and Descriptions of New Species of that and other Families. <*Trans. Amer. Philos. Soc.*, iv, pp. 63–121, with pls. iii–xviii, colored.

Consists of two parts.

The main part 63–105
Read May 7, 1830.

The supplement 105–121
Read May 20, 1831.

Both were issued together the latter end of 1831, and acknowledged by correspondents as received that year. (See *Proc. Acad. Nat. Sci.*, vii, p. 243.)

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16.

1831. LEA, ISAAC. Description of a new genus of the family Melaniana of Lamarck. <*Trans. Amer. Philos. Soc.*, iv, pp. 122–123.

Read before the American Philosophical Society January 7, 1831. Issued the latter part of the year 1831.

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1832. LEA, ISAAC. Observations | on | the Genus Unio, | together with | Descriptions | of | New Genera and Species in the Families Naïades, | Melaniana and Colimacea. | Read before the Am. | Philos. Society in 1827, 1829 and 1831, and published in | their Transactions in vols. III and IV, N. S. | By Isaac Lea, | member of the American Philosophical Society, of the Academy of Natural Sci- | ences of Philadelphia, of the Lyceum of Natural History of New York, | of the Royal Physical Society of Edinburgh, of the Natural | History Society of Montreal, corresponding member | of the Linnean Society of Bordeaux, Etc. | Philadelphia: | Printed by James Kay, Jun. & Co. | Printers to the Society, | 1832. 4°. pp. 133, pls. xxvii, colored.

This consists of Nos. 13, 15, and 16 bound in one, with consecutive paging.

18.

1833. LEA, ISAAC. Contributions | to | Geology. | by | Isaac Lea, | member of the American Philosophical Society; | of the Academy of Natural Sciences of Philadelphia; | of the Lyceum of Natural History of New York; | honorary

1833. LEA, ISAAC—Continued.

member of the Medical Society of Orange County, | New York; | member of the Royal Physical Society of Edinburgh; | of the British Association of Science; | of the Natural Historical Society of Montreal; | corresponding member of the Linnæan Society of Bourdeaux, | Etc. Etc. | Philadelphia: | Carey, Lea and Blanchard. | 1833. 8°. pp. 227, with 228 colored figures.

Presented by the author to the library of the Acad. Natural Sciences, Philadelphia, December 10th, 1833; but this does not represent the date of issue, for Prof. Silliman (having received a bound copy) writing from New Haven, on the 3rd of December, 1833, wishes to have a notice for the January Number of the *American Journal of Science, etc.*

(See *Rectification of T. A. Conrad's Synopsis, etc., new edition*, 1872, p. 37.)

At that time the mail took two or three days to reach New Haven from Philadelphia, making the date of issue as early as the last part of November.

This book is dedicated to Charles Tait, Esq., of Clairborne, Alabama, of whom Mr. Lea says: "I am, therefore, indebted to Judge Tait for every new species described in this paper, and to him science owes the great obligation of having first brought them to light."

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* There is evidently a mistake here, and Myoparo should be the genus and not P. Plate 2 has *Myoparo costatus* for fig. 51.

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19.

1834. LEA, ISAAC. Ueber den Winterschlaf. <*Notizen aus dem Gebiete der Natur- und Heilkunde, gesammelt und mitgetheilt von Ludwig Friedrich v. Froriep*, xxxix, 1834, col. 161–168.

Translation from *Amer. Journ. Sci. & Arts*, ix, 1825, pp. 75–83.

20.

1832–34. Lea, Isaac. Observations on the Naïades; and Descriptions of New Species of that and other Families. <*Trans. Amer. Philos. Soc.*, N. S., v, pp. 23–119.

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The Main part 23–59
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"Having had the opportunity, while in Paris recently, to inspect most of the cabinets to which Lamarck refers in his description of the *Naïades*, I seized the opportunity to examine the *individual specimens* from which he made his descriptions; and having made notes on the spot, I feel great confidence as to the facts, and trust that my judgment as to the decisions on his species will be found to be correct."
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Systematic Index of the Shells Described in Mr. Lea's Memoirs: *Trans. Am. Phil. Soc.*, volumes iii, iv, and v 118–119

21.

1834. LEA, ISAAC. Observations | on the | Genus Unio, | together with | Descriptions of New Genera and Species in the Families | Naïades, Conchæ, Colimacea, Lymnæana, Me- | laniana and Peristomiana: | consisting of | four memoirs read before the American Philosophical Society from | 1827 to 1834, and originally published in their Transactions, | with numerous coloured plates. | by Isaac Lea, | [Title] | Philadelphia: | Printed for the Author, | by James Kay, Jun. and Co. | 4°. 4 leaves and pp. 233, with 46 plates.

This volume, dedicated to Philip Houlbrooke Nicklin, M. A., is I of Dr. Lea's series of "Observations on the Genus Unio," and consists of numbers 17 and 20 of this Catalogue. Noticed in *Amer. Journ. of Science and Arts*, xvii, 1835, p. 371.

22.

1835. LEA, ISAAC, *and* W. H. BENSON. Characters of three new species of Indian freshwater Bivalves. <*Journ. Asiatic Society of Bengal*, iv, 1835, pp. 450–454.

Article not seen.

23.

1836. LEA, ISAAC. A | Synopsis | of the | Family of Naïades, | by | Isaac Lea, | Member of the American Philosophical Society, | etc., etc. | Philadelphia: | Carey, Lea and Blanchard. | London: | John Miller. | 1836. 8°. pp. viii, 1–59. 2 leaves.

1 plate with colored figures of *Unio spinosus*, Lea.

INTRODUCTION.

"This systematic arrangement and synonymy was communicated to the American Philosophical Society in July last nearly in the form in which it is now printed. It was undertaken purely with the view and in the hope of clearing away the difficulties which had incumbered one of the most interesting families of the Mollusca. * * * In attempting to establish the synonymy, he has endeavoured to render the strictest justice, and if in any case it is found he has failed to do this, it will be a matter of sincere regret to him.

In the following tables there will be found in the family 300 recent species as admitted, 22 as doubtful, and 22 fossil; in all 344.

Of the sub-genus *Unio* there are 226 species in a recent state, and 14 which I have not been able to admit as certain; of fossil species 21.

Of the sub-genus *Margaritana* there are 14 admitted species, and 2 which are unknown to me.

Of the sub-genus *Dipsas* I know of but two species, both of which are recent.

Of the sub-genus *Anodonta* there are 50 admitted species, and 6 which are unknown to me. Of fossil species there is one which is doubtful.

Of the sub-genus *Pleiodon* there is but one species, and that recent.

The genus Iridina has 7 species, all recent."

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This synopsis contains the names of many new species the descriptions of which at the time of its publication had been read before the American Philosophical Society, and which were published in 1838 in volume vi of that Society's Transactions. (See No. 27.)

24.

1836. LEA, ISAAC. Description of a new species of the genus *Unio* (*spinosus*), 1836. 4°. pp. —, colored figures.

25.

1837. LEA, ISAAC. Neue Gattungen von Najaden. <*Faunus; Zeitschrift für Zoologie und vergleichenden Anatomie; von Joh. Gistl.* 8°. München, i, 1837 (pte. 6), pp. 43–53.

26.

1837. LEA, ISAAC. (Title unknown). <*Gistl, Faunus*, i, 1837 (pte. 16), p. 83.

This refers to No. 16. Description of a new genus (*Io*) of the family Melaniana, Lamarck (*Io fusiformis* in *Amer. Philos. Soc. Trans.*, iv, pp. 122–124.)

27.

1834–38. LEA, ISAAC. Description of New Freshwater and Land Shells. <*Trans. Amer. Philos. Soc.*, vi, n. s., pp. 1–154. Article I, pls. i–xxiv, colored.

Part I of vol. vi of the Transactions printed and ready for distribution June 15, 1838. (See *Proc. Amer. Philos. Soc.*, i, 1838, p. 19.)

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1834–38. LEA, ISAAC—Continued.

Unio Vaughanianus, Lea, n. s., pl. iii, fig. 5 5
Hab.: Sawney's Creek, near Camden, S. C., Professor Ravenel.
Unio pulcher, Lea, n. s., pl. iii, fig. 6 6
Hab.: near Nashville, Tenn., Professor Troost.
Unio obscurus, Lea, n. s., pl. iii, fig. 7 7
Hab.: near Nashville, Tenn., Professor Troost.
Unio Fisherianus, Lea, n. s., pl. iv, fig. 8 8
Hab.: Head of Chester River, Md., Mr. Thomas Fisher.
Unio jejunus, Lea, n. s., pl. iv, fig. 8 9
Hab.: Roanoke, also near Camden, S. C., Dr. Blanding.
Unio arctior, Lea, n. s., pl. iv, fig. 10 10
Hab.: Ohio River, near Cincinnati, T. G. Lea.
Unio turgidus, Lea, n. s., pl. v, fig. 11 11
Hab.: near New Orleans, Mr. Barabino.
Unio coccineus, Lea, n. s., pl. v, fig. 12 12
Hab.: Ohio River, near Marietta, Dr. Hildreth; Mahoning River, Ohio, Dr. Kirtland; near Columbus, Ohio, Mr. Lapham.
Unio solidus, Lea, n. s., pl. v, fig. 13 13
Hab.: Ohio River, at Cincinnati, T. G. Lea.
Unio Hydianus, Lea, n. s., pl. vi, fig. 14 14
Hab.: Teche River, Louisiana, W. M. Stewart.
Unio interruptus, Lea, n. s., pl. vi, fig. 15 15
Hab.: Harpeth River, Tenn., Professor Troost.
Ampullaria Pealiana, Lea, n. s., pl. xxiii, fig. 77 16
Hab.: Turbaco, Colombia, South America, T. R. Peale.
Paludina hyalina, Lea, n. s., pl. xxiii, fig. 81 17
Hab.: near Poland, Ohio, Dr. Kirtland.
Melania inflata, Lea, n. s., pl. xxiii, fig. 98 17
Hab.: Indian Creek, Va., west of Alleghany Mountains, P. H. Nicklin.
Physa aurea, Lea, n. s., pl. xxiii, fig. 106 18
Hab.: Hot Spring, Bath County, Virginia, P. H. Nicklin.

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Read January 2, 1835.

Unio lamellatus, Lea, n. s., pl. vi, fig. 16 19
Hab.: Bengal, Captain Lang.
Melania plicata, Lea, n. s., pl. xxiii, fig. 95 20
Hab.: Bengal?

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Read September 18, 1835.

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Megaspira Ruschenbergiana, Lea, n. s., pl. xxiii, fig. 101 21
Hab.: Brazil? W. S. W. Ruschenberger, M. D.
Paludina pallida, Lea, n. s., pl. xxiii, fig. 104 22
Hab.: near Cincinnati, Ohio, T. G. Lea.

CONTINUATION.

Read February 5, 1836.

Unio pumilus, Lea, n. s., pl. vii, fig. 17 23
Hab.: Black River, North Carolina.
Unio Tampicoensis, Lea, n. s., pl. vii, fig. 18 24
Hab.: River Tampico, Mexico; River Medellin, Mexico, Dr. Burrough.
Unio Cumberlandicus, Lea, n. s., pl. vii, fig. 19 25
Hab.: Cumberland River, Tenn., Prof. Troost.
Unio simus, Lea, n. s., pl. viii, fig. 20 26
Hab.: Cumberland River, Tenn., Prof. Troost.
Unio Roanokensis, Lea, n. s., pl. viii, fig. 21 27
Hab.: Roanoke River, North Carolina; Altamaha, Georgia, Professor Nuttall and Major Leconte.
Unio notatus, Lea, n. s., pl. viii, fig. 22 28
Hab.: Cumberland River, Prof. Troost.
Unio Jayensis, Lea, n. s., pl. ix, fig. 23 28
Hab.: Florida, J. C. Jay, M. D.
Unio Hopetonensis, Lea, n. s., pl. ix, fig. 24 29
Hab.: Hopeton, near Darien, Prof. Shepard.
Unio lugubris, Lea, n. s., pl. ix, fig. 25 30
Hab.: Hopeton, near Darien, Prof. Shepard.

1834-38. LEA, ISAAC—Continued.

Unio Barnesianus, Lea, n. s., pl. x, fig. 26 31
Hab.: Cumberland River, Tenn., Prof. Troost.
Unio Zeiglerianus, Lea, n. s., pl. x, fig. 27 32
Hab.: Cumberland River, Tenn., Prof. Troost.
Unio creperus, Lea, n. s., pl. x, fig. 28 33
Hab.: Tennessee, Professor Troost.
Unio glaber, Lea, n. s., pl. x, fig. 29 34
Hab.: Holston River, Tenn., Professor Troost.
Unio gibber, Lea, n. s., pl. x, fig. 30 35
Hab.: Carryfork River, Tenn., Professor Troost.
Unio Vanuxemensis, Lea, n. s., pl. xi, fig. 31 36
Hab.: Cumberland River, Tenn., Professor Troost.
Unio carbonarius, Lea, n. s., pl. xi, fig. 32 37
Hab.: River Medellin, Mexico, Dr. Burrough.
Unio folliculatus, Lea, n. s., pl. xi, fig. 33 38
Hab.: Savannah River, Major Leconte.
Unio medellinus, Lea, n. s., pl. xii, fig. 34 39
Hab.: River Medellin, near Vera Cruz, Dr. Burrough.
Unio Lecontianus, Lea, n. s., pl. xii, fig. 35 40
Hab.: Conoochee River, Georgia, Major Leconte.
Unio Muhlfeldianus, Lea, n. s., pl. xii, fig. 36 41
Hab.: Cumberland River, Tenn., Professor Troost.
Margaritana Holstonia, Lea, n. s., pl. xiii, fig. 37 42
Hab.: Holston River, Professor Troost.
Margaritana deltoidea, Lea, n. s., pl. xiii, fig. 38 43
Hab.: Ohio River, near Cincinnati, T. G. Lea; Scioto, Dr. Kirtland.
Margaritana fabula, Lea, n. s., pl. xiii, fig. 39 44
Hab.: Cumberland River, Tenn., Prof. Troost.
Anodonta cylindracea, Lea, n. s., pl. xiii, fig. 40 45
Hab.: River Medellin, near Vera Cruz, Dr. Burrough.
Anodonta salmonia, Lea, n. s., pl. xiv, fig. 41 45
Hab.: Near Poland, Ohio, J. P. Kirtland, M. D.
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Hab.: Near Chillicothe, Ohio, J. C. Ward, M. D.
Anodonta Buchanensis, Lea, n. s., pl. xiv, fig. 43 47
Hab.: Buck Creek, Ohio, R. Buchanan, Esq.

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Read July 15th, 1836.

Remarks upon the differences in the male and female shells among the Unionidæ and upon the structure of the oviducts producing these differences 48-57
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Described in 1836 in No. 24, and a plate was issued in Mr. Lea's Synopsis in 1836.
Unio pliciferus, Lea, n. s., pl. xvii, fig. 53 61
Hab.: Mexico, Dr. Burrough.
Unio Tappanianus, Lea, n. s., pl. xvii, fig. 55 62
Hab.: Juniata, near Hollidaysburg, Dr. Kirtland.
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Hab.: Canal, near Cincinnati, Ohio, T. G. Lea.
Bulimus lacteus, Lea, n. s., pl. xxiii, fig. 100 65
Hab.: About one hundred miles up the Magdalena River, Colombia, T. R. Peale.
Bulimus Pealianus, Lea, n. s., pl. xxiii, fig. 105 65
Hab.: Near the Rapids of Angostura, Colombia, T. R. Peale.
Bulimus Colombianus, Lea, n. s., pl. xxiii, fig. 110 66
Hab.: About one hundred miles up the Magdalena River, Colombia, T. R. Peale.
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Hab.: Buenavista, Colombia, T. R. Peale.
Helix Wardiana, Lea, n. s., pl. xxiii, fig. 82 67
Hab.: Near Cincinnati, Ohio, T. G. Lea; near Chillicothe, Ohio, C. J. Ward, M. D.
Cyclostoma maculata, Lea, n. s., pl. xxiii, fig. 87 68
Hab.: Manila, W. W. Wood.
Planorbis lens, Lea, n. s., pl. xxiii, fig. 83 68
Hab.: Near Cincinnati, Ohio, R. Buchanan.

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Read August 19th, 1836.

Unio graniferus, Lea, n. s., pl. xix, fig. 60 69
Hab.: Ohio River, near Cincinnati, T. G. Lea.

1834-38. LEA, ISAAC—Continued.

Unio splendidus, Lea, n. s., pl. xix, fig. 61 70
Hab.: Altamaha River, near Darien, Georgia, James Hamilton Cowper, Esq.

Margaritana arcula, Lea, n. s., pl. xxii, fig. 69 71
Hab.: Altamaha, Liberty County, Georgia, Lewis Leconte, Esq.

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Read November 4th, 1836.

Unio Dorfeuillianus, Lea, n. s., pl. xvii, fig. 54 73
Hab.: Ohio River, Mr. Dorfeuille, Cincinnati.

Unio discus, Lea, n. s., pl. xviii, fig. 57 74
Hab.: India.

Unio contradens, Lea, n. s., pl. xviii, fig. 58 75
Hab.: ——.

Unio Menkianus, Lea, n. s., pl. xix, fig. 59 76
Hab.: Harpeth River, Tenn., Professor Troost.

Anodonta Nuttalliana, Lea, n. s., pl. xx, fig. 62 77
Hab.: Wahlamat, near its junction with the Columbia River, Prof. Nuttall.

Anodonta Wahlamatensis, Lea, n. s., pl. xx, fig. 64 78
Hab.: Wahlamat, near its junction with the Columbia River, Professor Nuttall.

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Anodonta Newtoniensis, Lea, n. s., pl. xxi, fig. 66 79
Hab.: Newtown Creek, New Jersey, near Philadelphia, Wm. Hyde. Also Schuylkill, at Fairmount.

Anodonta Oregoncnsis, Lea, n. s., pl. xxi, fig. 67 80
Hab.: Wahlamat, near its junction with the Columbia River, Professor Nuttall.

Anodonta exilis, Lea, n. s., pl. xxii, fig. 68 81
Hab.: ——

Iridina cœlestis, Lea, n. s., pl. xxii, fig. 70 82
Hab.: Africa.

Bulimus glandiformis, Lea, n. s., pl. xxiii, fig. 92 83
Hab.: New Granada, between La Plata and Tocaima, J. H. Gibbon, M. D.

Bulimus parvus, Lea, n. s., pl. xxiii, fig. 96 84
Hab.: Near Carthagena, S. A., J. H. Gibbon, M. D.

Bulimus virgo, Lea, n. s., pl. xxii, fig. 97 84
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Hab.: New Granada, between La Plata and Tocaima, J. H. Gibbon, M. D.

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Hab.: Near Carthagena, S. A., J. H. Gibbon, M. D.

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Hab.: Near Carthagena, S. A., J. H. Gibbon, M. D.

Helix Mitchelliana, Lea, n. s., pl. xxiii, fig. 71 87
Hab.: Ohio, J. K. Mitchell, M. D.

Helix Vancouverensis, Lea, n. s., pl. xxiii, fig. 72 87
Hab.: Fort Vancouver, Oregon, Prof. Nuttall.

Helix Nuttalliana, Lea, n. s., pl. xxiii, fig. 74 88
Hab.: From Fort Vancouver down to the ocean, Oregon, Professor Nuttall.

Helix Columbiana, Lea, n. s., pl. xxiii, fig. 75 89
Hab.: Fort Vancouver, Oregon, Professor Nuttall.

Helix magnifica, Lea, n. s., pl. xxiii, fig. 88 89
Hab.: New Granada, J. H. Gibbon, M. D.

Paludina sinistrosa, Lea, n. s., pl. xxiii, fig. 78 90
Hab.: East Indies, Miss Hodges.

Paludina virens, Lea, n. s., pl. xxiii, fig. 93 91
Hab.: Wahlamat, near its junction with the Columbia River, Professor Nuttall.

Paludina nuclea, Lea, n. s., pl. xxiii, fig. 103 91
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Hab.: Hot Springs, Virginia, P. H. Nicklin.

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Hab.: Mossy Creek, Jefferson County, Tenn., Prof. Troost.

Melania plicifera, Lea, n. s., pl. xxiii, fig. 90 93
Hab.: Wahlamat, near its junction with the Columbia River, Prof. Nuttall.

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Hab.: New Granada, near Popayan, J. H. Gibbon, M. D.
Lymnea solida, Lea, n. s., pl. xxiii, fig. 91 94
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Read July 21, 1837.

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Hab.: Ohio River, near Cincinnati, T. G. Lea.
Anodonta Pepinianus, Lea, n. s., pl. xvi, fig. 51 96
Hab.: Lake Pepin, Portage County, Ohio, B. Tappan, esq.
Anodonta angulata, Lea, n. s., pl. xvi, fig. 52 97
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Hab.: Near Porto Cabello, S. A., J. H. Gibbon, M. D.
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Hab.: St. Diego, Upper California, Prof. Nuttall.
Helix Townsendiana, Lea, n. s., pl. xxiii, fig. 80 99
Hab.: Wahlamat, near its junction with the Columbia River, Prof. Nuttall.
Helix Nickliniana, Lea, n. s., pl. xxiii, fig. 84 100
Hab.: St. Diego, Upper California, Prof. Nuttall.
Helix Oregonensis, Lea, n. s., pl. xxiii, fig. 85 100
Hab.: Wahlamat, near its junction with the Columbia River, Prof. Nuttall.
Succinea aperta, Lea, n. s., pl. xxiii, fig. 107 101
Hab.: Banks of Columbia River, Prof. Nuttall.
Paludina Nuttalliana, Lea, n. s., pl. xxiii, fig. 89 101
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Lymnea apicina, Lea, n. s., pl. xxiii, fig. 94 102
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Read January 5, 1838.

Unio dolabræformis, Lea, n. s., pl. xxiv, fig. 113 103
Hab.: Altamaha River, Liberty County, Georgia, Lewis Leconte, esq.
Unio Novi-Eboraci, Lea, n. s., pl. xxiv, fig. 114 104
Hab.: Oak Orchard Creek, Orleans County, New York, J. C. Jay, M. D.
Unio Claibornensis, Lea, n. s., pl. xxiv, fig. 115 105
Hab.: Alabama River, near Claiborne, Judge Tait.
Anodonta subcylindracea, Lea, n. s., pl. xxiv, fig. 117 106
Hab.: Oak Orchard Creek, Orleans County, New York, J. C. Jay, M. D.
Polygyra Dorfeuilliana, Lea, n. s., pl. xxiv, fig. 118 107
Hab.: Ohio, Mr. Dorfeuille, Cincinnati.
Polygyra Troostiana, Lea, n. s., pl. xxiv, fig. 119 107
Hab.: Tennessee, Prof. Troost.

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Read January 19, 1838.

Unio Brownianus, Lea, n. s., pl. xxiv, fig. 116 108
Hab.: River Amazon, South America, Capt. George Brown.
Systematic Index of Shells Described in Mr. Lea's Memoir 110–111
Synopsis of the Family of Naïades 113–152
Though forming a part of Article I, this is really No. 23, revised. It was also published separately (see No. 28).
Introductory Remarks 113–117
"In the following table there will be found in the family 323 recent species as admitted, 29 unknown to me or doubtful, and 22 fossil; in all 374.
"Of the subgenus *Unio*, there are 235 species in a recent state, and 20 which I have not been able to admit as certain; of fossil species 21.
"Of the subgenus *Margaritana*, there are 20 admitted species, and 2 which are unknown to me.
"Of the subgenus *Dipsas* I know of but 2 species, both of which are recent.
"Of the subgenus *Anodonta* there are 58 admitted species, and 7 which are unknown to me. Of fossil species there is one which is doubtful.
"The subgenus *Iridina* has 2 species, both recent.
"The subgenus *Spatha* has 6 species, all recent."

1834–38. LEA, ISAAC—Continued.

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28.

1838. LEA, ISAAC. A Synopsis | of the | Family of Naïades, | by Isaac Lea, | [Title] Second Edition, Enlarged and Improved. | Philadelphia: | Carey, Lea & Blanchard. | 1838. 4°. pp. 44.

This is pages 113 to 152 of No. 27 repaged and bound separate.

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Genus Platiris 42–43
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29.

1838. LEA, ISAAC. Observations | on the | Genus Unio, | together with | Descriptions of New Genera and Species in the Families | Naïades, Colimacea, Lymnæana, Melaniana | and Peristomiana. | Read before the American Philosophical

1838. LEA, ISAAC—Continued.

Society, and originally published in its Transactions, | with numerous Coloured Plates. | by Isaac Lea, | [Title] | Vol. ii, Philadelphia: | Printed for the author. 8°. 3 l., pp. 1–152, pls. 29, colored.

This is Article I of the Transactions of the American Philosophical Society, vol. vi, and No. 27 of this catalogue, and forms vol. ii of the series of xiii of "Observations on the Genus Unio." Issued in June, 1838.

30.

1838. LEA, ISAAC. [Description of a new shell, *Melania cincinnatiensis.*] <*Proc. Amer. Philos. Soc.*, i, p. 66. No. 5.

Read before the American Philosophical Society December 21, 1838. Probably No. 5 of the Proceedings was issued the same month, certainly by the middle of January, 1839.

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Near Cincinnati, Ohio, T. G. Lea.
Trans. Amer. Philos. Soc., viii..... 190

31.

1840. LEA, ISAAC. Description of Nineteen New Species of Colimacea. <*Proc. Amer. Philos. Soc.*, i, pp. 173–175.

Read before the American Philosophical Society February 21, 1840. Proceedings for January and February ready for distribution March 20, 1840. (See *Proc. Amer. Philos. Soc.*, i, p. 188.)

The full paper, with colored plates, will be found in the Transactions American Philosophical Society, vii, pp. 455–466 (see No. 38), the portion published here being the Latin descriptions of the species, with mention of habitat.

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Trans. Amer. Philos. Soc., vii. 1841, p. 457.
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Trans. Amer. Philos. Soc., vii, 1841, p. 456, as *Bulimus virginicus.*
Bulimus Liberianus, Lea, n. s..... 174
Liberia, Africa, Dr. Blanding.
Trans. Amer. Philos. Soc., vii, 1841, p. 457.
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Trans. Amer. Philos. Soc., vii, 1841, p. 465.
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Trans. Amer. Philos. Soc., vii, 1841, p. 461.

1840. LEA, ISAAC—Continued.

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Helix ferruginea, Lea, n. s 175
Philippine Islands, W. W. Wood.
Trans. Amer. Philos. Soc., vii, 1841, p. 464.

Helix Cuvieriana, Lea, n. s 175
Philippine Islands, W. W. Wood.
Trans. Amer. Philos. Soc., vii, 1841, p. 461.

Helix Blandingiana, Lea, n. s 175
Banks of the river St. Paul, Liberia, Africa, Dr. Blanding.
Trans. Amer. Philos. Soc., vii, 1841, p. 459.

Helix Humphreysiana, Lea, n. s 175
Pondicherry, Mr. Humphreys; Singapore, Mr. Balastier.
Trans. Amer. Philos. Soc., vii, 1841, p. 463.

Helix Balasteriana, Lea, n. s 175
Philippine Islands, Mr. Balastier.
Trans. Amer. Philos. Soc., vii, 1841, p. 460, as *Helix balestieriana*.

32.

1840. LEA, ISAAC. On the Patella amæna of Say. <*Proc. Amer. Philos. Soc.*, i, p. 187.

Reporter's abstract of the above paper read March 6, 1840. Proceedings for March presented to the meeting of the Society May 1, 1840. (See *Proc. Amer. Philos. Soc.*, i, p. 209.)

The full article was published in the *Trans. Amer. Philos. Soc.*, vii, pp. 73–74. (See No. 34.)

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Trans. Amer. Philos. Soc., vii, p. 73.

33.

1840. LEA, ISAAC. Notice of the Oolitic Formation in America, with Descriptions of some of its Organic Remains. <*Proc. Amer. Philos. Soc.*, i, pp. 225–227. No. 12.

Read May 15, 1840. Ordered to be published June 19, 1840. Proceedings for May, June, and July presented to the meetings of the Society August 21, 1840. (See *Proc. Amer. Philos. Soc.*, i, p. 267.)

The full paper, with plates, will be found in the *Trans. Amer. Philos. Soc.*, vii, part II, pp. 251–260 (See No. 36), the portion printed in the Proceedings being the reporter's outline of the whole paper, followed by the Latin descriptions of the species.

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Trans. Amer. Philos. Soc., vii, p. 254.

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Trans. Amer. Philos. Soc., vii, p. 260.

Tellina [?] *Humboldtiana*, Lea, n. s 227
Trans. Amer. Philos. Soc., vii, p. 260, as *Tellinites Humboldtiana.*

34.

1840. LEA, ISAAC. On the Patella Amæna of Say. <*Trans. Amer. Philos. Soc.*, vii, part I, pp. 73–74. (See also No. 32.)

Read before the American Philosophical Society March 6, 1840. (See *Proc. Amer. Philos. Soc.*, i, 1840, p. 181.) Transactions of the Society, vol. vii, part I, presented to the meeting of the Society September 18, 1840. (See *Proc. Amer. Philos. Soc.*, i, 1840, p. 273.)

"In this Paper Mr. Lea gives a Synonymy, showing that the *Patella Amœna* of Say was first described by Müller, under the specific name of *Testudinalis:* Zool. Dan., p. 237; and Mr. Couthouy, having lately given an elaborate description of the animal in the Boston Journal of Natural Science showing that it belongs to the new genus *Patelloida*, recently established by Quoy and Gaimard; Mr. Lea argues that it should henceforth be called *Patelloida Testudinalis.*"—*Proc. Amer. Philos. Soc.*, i, p. 187.

35.

1840. LEA, ISAAC. Descriptions of new Fresh Water and Land Shells. <*Proc. Amer. Philos. Soc., Phila.*, i, pp. 284–289.

Read before the Society October 2, 1840. Ordered to be published October 16, 1840. Proceedings for October ready for distribution, and a copy presented to the meeting of the Society November 6, 1840. (See *Proc. Amer. Philos. Soc.*, i, 1840, p. 292.)

The *full paper*, with *plates*, will be found in the Transactions of the Society, vol. viii, pp. 191–229, as part of Article XII, but the Latin descriptions of the species (preceded by the reporter's notes on the whole paper) were published in the Proceedings, as above. (See No. 43.)

Unio cucumoides, Lea, n. s 285
Hunter's River, New South Wales, Dr. Jay.
Trans. Amer. Philos. Soc., viii, 1842, p. 192.

Unio delphinus, Lea, n. s 285
New Holland, G. von den Busch, M. D.
Trans. Amer. Philos. Soc., viii, 1842, p. 218.

Unio orientalis, Lea, n. s 285
Java, ? G. von den Busch, M. D.
Trans. Amer. Philos. Soc., viii, 1842, p. 221.

Unio Javanus, Lea, n. s 285
Java, G. von den Busch, M. D.
Trans. Amer. Philos. Soc., viii, 1842, p. 220.

Unio Cincinnatiensis, Lea, n. s 285
Ohio River, Cincinnati, T. G. Lea.
Trans. Amer. Philos. Soc., viii, 1842, p. 194.

Unio pilaris, Lea, n. s 285
French Broad and Holston Rivers, East Tenn., Mr. S. M. Edgar.
Trans. Amer. Philos. Soc., viii, 1842, p. 209.

Unio Geddingsianus, Lea, n. s 285
Congaree River, So. Car., Prof. Ravenel.
Trans. Amer. Philos. Soc., viii, 1842, p. 202.

Unio tuberosus, Lea, n. s 286
Cany Fork and Cumberland Rivers, Middle Tenn., Mr. S. M, Edgar.
Trans. Amer. Philos. Soc., viii, 1842, p. 210.

Unio cuneolus, Lea, n. s 286
Holston River, Tenn., Mr. S. M. Edgar.
Trans. Amer. Philos. Soc., viii, 1842, p. 193.

Unio Lesueurianus, Lea, n. s 286
Cany Fork and Holston Rivers, Tenn., Mr. S. M. Edgar.
Trans. Amer. Philos. Soc., viii, 1842, p. 195.

Unio Stonensis, Lea, n. s 286
Stone's River, Tenn., Mr. S. M. Edgar.
Trans. Amer. Philos. Soc., viii, 1842, p. 195.

Unio lenis, Lea, n. s 286
Stone's River, Tenn., Mr. S. M. Edgar.
Trans. Amer. Philos. Soc., viii, 1842, p. 204, as *Unio lenior*.

Unio plenus, Lea, n. s 286
Ohio River, near Cincinnati, T. G. Lea.
Trans. Amer. Philos. Soc., viii, 1842, p. 211.

Unio tener, Lea, n. s 286
Big Pigeon River, Tenn., Mr. S. M. Edgar.
Trans. Amer. Philos. Soc., viii, 1842, p. 198.

1840. LEA, ISAAC—Continued.

Unio pusillus, Lea, n. s 286
Ogeechee River, Georgia, Major Le Conte.
Trans. Amer. Philos. Soc., viii, 1842, p. 220.

Unio amœnus, Lea, n. s 286
Holston River, Tenn., Mr. S. M. Edgar.
Trans. Amer. Philos. Soc., viii, 1842, p. 200.

Unio incrassatus, Lea, n. s 286
Chattahoochee River, near Columbus, Georgia, Dr. Boykin.
Trans. Amer. Philos Soc., viii, 1842, p, 217.

Unio Boydianus, Lea, n. s 286
Oak Orchard Creek, Orleans County, N. Y., Dr. Boyd.
Trans. Amer. Philos. Soc., viii, 1842, p. 216.

Unio Sloatianus, Lea, n. s 287
Chattahoochee River, Georgia, Mr. L. W. Sloat.
Trans. Amer. Philos. Soc., viii, 1842, p. 217.

Unio paulus, Lea, n. s 287
Chattahoochee River, Columbus, Georgia, Dr. Boykin.
Trans. Amer. Philos. Soc., viii, 1842, p. 213.

Unio strigosus, Lea, n. s 287
Chattahoochee River, Columbus, Georgia, Dr. Boykin.
Trans. Amer. Philos. Soc., viii, 1842, p. 198.

Unio lineatus, Lea, n. s 287
Chattahoochee River, Columbus, Georgia, Dr. Boykin.
Trans. Amer. Philos. Soc., viii, 1842, p. 206.

Unio exiguus, Lea, n. s 287
Chattahoochee River, Columbus, Georgia, Dr. Boykin.
Trans. Amer. Philos. Soc., viii, 1842, p. 191.

Unio tortivus, Lea, n. s 287
Chattahoochee River, Columbus, Georgia, Dr. Boykin.
Trans. Amer. Philos. Soc., viii, 1842, p. 204.

Unio sub-angulatus, Lea, n. s 287
Chattahoochee River, Columbus, Georgia, Dr. Boykin.
Trans. Amer. Philos. Soc., viii, 1842, p. 209.

Unio striatus, Lea, n. s 287
Chattahoochee River, Columbus, Georgia, Dr. Boykin.
Trans. Amer. Philos. Soc., viii, 1842, p. 203.

Unio fatuus, Lea, n. s 287
Holston River, Tenn., Dr. Currey.
Trans. Amer. Philos. Soc., viii, 1842, p. 201.

Unio dactylus, Lea, n. s 287
Cany Fork River, Tenn., Mr. S. M. Edgar.
Trans. Amer. Philos. Soc., viii, 1842, p. 196.

Unio obtusus, Lea, n. s 287
Chattahoochee River, Columbus, Georgia, Dr. Boykin.
Trans. Amer. Philos. Soc., viii, 1842, p. 201.

Unio Boykinianus, Lea, n. s 288
Chattahoochee River, Columbus, Georgia, Dr. Boykin.
Trans. Amer. Philos. Soc., viii, 1842, p. 208.

Unio Edgarianus, Lea, n. s 288
Holston River, Tenn., Prof. Troost and Dr. Currey; Tennessee River at Florence, Alabama, Mr. T. R. Dutton.
Trans. Amer. Philos. Soc., viii, 1842, p. 214.

Unio biangularis, Lea, n. s 288
Cany Fork River, Tenn., Prof. Troost and Mr. S. M. Edgar.
Trans. Amer. Philos. Soc., viii, 1842, p. 197, as *Unio biangulatus*.

Unio nitens, Lea, n. s 288
Long Creek, Cocke Co., Tenn., Mr. S. M. Edgar.
Trans. Amer. Philos. Soc., viii, 1842, p. 205.

Unio Holstonensis, Lea, n. s 288
Holston River, Tenn., Mr. S. M. Edgar.
Trans. Amer. Philos. Soc., viii, 1842, p. 212.

Unio dolabelloides, Lea, n. s 288
Holston River, Tenn., Mr. S. M. Edgar.
Trans. Amer. Philos. Soc., viii, 1842, p. 215.

1840. LEA, ISAAC—Continued.

Unio Tennesseensis, Lea, n. s 288
Stone's River, Tenn., Mr. S. M. Edgar.
Trans. Amer. Philos. Soc., viii, 1842, p. 199.

Unio atro-marginatus, Lea, n. s 288
Chattahoochee River, Columbus, Georgia, Dr. Boykin.
Trans. Amer. Philos. Soc., viii, 1842, p. 207.

Unio Bournianus, Lea, n. s 288
Scioto River, near Chillicothe, Ohio, Mr. A. Bourne.
Trans. Amer. Philos. Soc., viii, 1842, p. 213.

Margaritana Vondenbuschiana, Lea, n. s 288
Java, G. von den Busch, M. D.
Trans. Amer. Philos. Soc., viii, 1842, p. 222.

Margaritana Curreyiana, Lea, n. s 288
Stone's River, Tenn., Dr. Currey, of Nashville.
Trans. Amer. Philos. Soc., viii, 1842, p. 223.

Anodonta Harpethensis, Lea, n. s 289
Harpeth River, Tenn., Mr. S. M. Edgar.
Trans. Amer. Philos. Soc., viii, 1842, p. 224.

Anodonta argentea, Lea, n. s 289
Stone's River, Tenn., Dr. Currey.
Trans. Amer. Philos. Soc., viii, 1842, p. 223.

Anodonta ferruginea, Lea, n. s 289
Simon's Creek, Indiana, T. G. Lea.
Trans. Amer. Philos. Soc., viii, 1842, p. 225.

Anodonta Couperiana, Lea, n. s 289
Hopeton, near Darien, Georgia, J. H. Couper, Esq.
Trans. Amer. Philos. Soc., viii, 1842, p. 227, as *Anodonta Couperiana.*

Anodonta Maryattiana, Lea, n. s 289
Vicinity of Fort Winnebago, Capt. Maryatt, R. N.
Trans. Amer. Philos. Soc., viii, 1842, p. 226.

Anodonta Footiana, Lea, n. s 289
Vicinity of Fort Winnebago, Dr. Foot.
Trans. Amer. Philos. Soc., viii, 1842, p. 225.

Melania catenaria, Lea, n. s 289
Chattahoochee River, Columbus, Georgia, Dr. Boykin.
Trans. Amer. Philos. Soc., viii, 1842, p. 228, as *Melania catenoides.*

Melania Boykiniana, Lea, n. s 289
Chattahoochee River, Columbus, Georgia, Dr. Boykin.
Trans. Amer. Philos. Soc., viii, 1842, p. 228.

Carocolla Cumberlandiana, Lea, n. s 289
Cumberland Mts., near Jasper, Tenn., Dr. Currey.
Trans. Amer. Philos. Soc., viii, 1842, p. 229.

Cyclostoma Cincinnatiensis, Lea, n. s 289
Vicinity of Cincinnati, T. G. Lea.
Trans. Amer. Philos. Soc., viii, 1842, p. 229.

36.

1840. LEA, ISAAC. Notice of the Oolitic Formation in America, with Descriptions of some of its Organic Remains. <*Trans. Amer. Philos. Soc.*, vii, Part II, pp. 251–260, plates viii–x.

Read before the American Philosophical Society, May 15, 1840. Transactions of the Society, vol. vii, Part ii, ready for distribution February 5, 1841. (See *Proc. Amer. Philos. Soc.*, ii, p. 16.)

A portion of the paper, the Latin descriptions of the species, was published in the *Proc. Amer. Philos. Soc.*, i, 1840, pp. 225–227. (See No. 33.)

The paper describes some fossils from New Granada and Cuba, resembling forms found in the Jura formation of Europe, and is divided into two parts, the first relating to the Oolite of New Granada and the second to the Oolite of Cuba. Each of these parts commences with remarks upon the formations and localities from which the specimens were derived.

THE OOLITE OF NEW GRANADA 251–257

Orthocera Humboldtiana, Lea, pl. viii, fig. 1 253
Proc. Amer. Philos. Soc., i, p. 226.

Ammonites Tocaimaensis, Lea, pl. viii, fig. 2 253
Proc. Amer. Philos. Soc., i, p. 226.

1840. LEA, ISAAC—Continued.

Ammonites Gibbonianus, Lea, pl. viii, fig. 3 254
Proc. Amer. Philos. Soc., i, p. 226.
Ammonites occidentalis, Lea, pl. viii, fig. 4 254
Proc. Amer. Philos. Soc., i, p. 226.
Ammonites Vanuxemensis, Lea, pl. viii, fig. 5 254
Proc. Amer. Philos. Soc., i, p. 226.
Ammonites Americanus, Lea, pl. viii, fig. 6 255
Proc. Amer. Philos. Soc., i, p. 226.
Trigonia Gibboniana, Lea, pl. ix, fig. 7 255
Proc. Amer. Philos. Soc., i, p. 226.
Trigonia Tocaimaana, Lea, pl. ix, fig. 8 256
Proc. Amer. Philos. Soc., i, p. 226, as *T. Tocaimana*.
Trigonia Hondaana, Lea, pl. ix, fig. 9 256
Proc. Amer. Philos. Soc., i, p. 226.
Natica Gibboniana, Lea, pl. ix, fig. 10 256
Proc. Amer. Philos. Soc., i, p. 226.
Spatangus Colombianus, Lea, pl. ix, fig. 11 257
Proc. Amer. Philos. Soc., i, p. 227.
THE OOLITE OF CUBA 257–260
Terebratula Tayloriana, Lea, pl. x, fig. 12 259
Proc. Amer. Philos. Soc., i, p. 227.
Terebratula Poeyana, Lea. pl. x, fig. 13 260
Proc. Amer. Philos. Soc., i, p. 227.
Tellinites Humboldtiana, Lea, pl. x, fig. 14 260
Proc. Amer. Philos. Soc., i, p. 227, as *Tellina* [?] *Humboldtiana*.

Besides the foregoing species described and figured, Mr. Lea proposed the following names (without descriptions) for casts in his possession and figured in plate x.

Nautilus Cubœnsis, Lea, n. s., pl. x, fig. 15 259
Arca Sillimaniana, Lea, n. s., pl. x, fig. 16 259
Cucullea dubia, Lea, n. s., pl. x, fig. 17 259
Chama tortuosa, Lea, n. s., pl. x, fig. 18 259
Cardium globosum, Lea, n. s., pl. x, fig. 20 259
Cardium depressum, Lea, n. s., pl. x, fig. 21 259
Conus latus, Lea, n. s., pl. x, fig. 19 259

37.

1841. LEA, ISAAC. New Fresh Water and Land Shells. <*Proc. Amer. Philos. Soc.*, ii, pp. 11–15.

Read before the American Philosophical Society, January 15, 1841. No printed record of the publication of the Proceedings for February found, but in all probability they were issued March, 1841.

The full paper with plates will be found in the *Trans. Amer. Philos. Soc.*, viii, pp. 163–190. (See No. 43.) The portion published in the Proceedings consists of the Latin descriptions of the species with mention of habitat.

"In this paper Mr. Lea describes fifty-seven new species of the genus Melania. He notices the existence of numerous species distributed over a wide geographical range, from the Columbia River to the St. Lawrence; there being now about 117 species included in the Fauna of the United States.

This genus having become so extended, Mr. Lea felt the necessity of making minor groups, and has therefore proposed nine sections. 1. The Smooth. 2. The Plicate. 3. The Carinate. 4. The Sulcate. 5. The Striate. 6. The Tuberculate. 7. The Granulate. 8. The Cancellate. 9. The Spinose."

Section 1.—Smooth Melaniæ.

Melania Hildrethiana, Lea, n. s 11
Ohio River, near Marietta, Dr. Hildreth.
Trans. Amer. Philos. Soc., viii, p. 164.
Melania castanea, Lea, n. s 11
Maury County, Tenn., Mr. Dutton.
Trans. Amer. Philos. Soc., viii, p. 164.
Melania lævigata, Lea, n. s 11
Alabama River, at Claiborne, Judge Tait.
Trans. Amer. Philos. Soc., viii, p. 165.

Specific name was afterward changed by Mr. Lea to *lævis* because *lævigata* was pre-occupied by Lamarck. (See *Proc. Amer. Philos. Soc.*, ii, p. 237, and *Transactions* of the same Society, vol. viii, Corrigenda between pages 250 and 251.)

1841. LEA, ISAAC—Continued.

Melania Kirtlandiana, Lea, n. s 11
Richmond, Indiana; Duck Creek, near Cincinnati; and Miami, Ohio, T. G. Lea; Little Miami, Dr. Warder.
Trans. Amer. Philos. Soc., viii, p. 165.

Melania Taitiana, Lea, n. s 11
Alabama River, at Claiborne, Judge Tait.
Trans. Amer. Philos. Soc., viii, p. 165.

Melania dubia, Lea, n. s 11
Tennessee, Dr. Troost.
Trans. Amer. Philos. Soc., viii, p. 166, as *Melania dubiosa*.

Melania ebenum, Lea, n. s 12
Robinson County, Tenn., Dr. Currey.
Trans. Amer. Philos. Soc., viii, 1842, p. 166.

Melania rufa, Lea, n. s 12
Mamma's Creek, Tenn., Mr. S. M. Edgar.
Trans. Amer. Philos. Soc., viii, p. 167.

Specific name changed to *rufescens*, because *rufa* was preoccupied by Dr. Philippi, for a Sicilian species. See *Proc. Amer. Philos. Soc.*, ii, 1842, p. 237, and *Transactions* of the same society, vol. viii, Corrigenda between pages 250 and 251.

Melania fusiformis, Lea, n. s 12
Tennessee, Dr. Troost.
Trans. Amer. Philos. Soc., viii, 1842, p. 167.

Melania clavæformis, Lea, n. s 12
Ocoée District, Tenn., Dr. Troost.
Trans. Amer. Philos. Soc., viii, 1842, p. 168.

Melania gracilis, Lea, n. s 12
Tennessee, Dr. Troost.
Trans. Amer. Philos. Soc., viii, 1842, p. 168.

Melania subsolida, Lea, n. s 12
Tennessee, Dr. Troost.
Trans. Amer. Philos. Soc., viii, 1842, p. 168.

Melania Ocoéensis, Lea, n. s 12
Ocoée District, Tenn., Dr. Troost.
Trans. Amer. Philos. Soc., viii, 1842, p. 169.

Melania subcylindracea, Lea, n. s 12
Tennessee, Dr. Troost.
Trans. Amer. Philos. Soc., viii, 1842, p. 169.

Melania sordida, Lea, n. s 12
Tennessee, Dr. Troost.
Trans. Amer. Philos. Soc., viii, 1842, p. 170.

Melania regularis, Lea, n. s 12
Oconee District, Tenn.
Trans. Amer. Philos. Soc., viii, 1842, p. 170.

Melania fuliginosa, Lea, n. s 12
Big Bigby Creek, Maury Co., Tenn., Mr. Dutton.
Trans. Amer. Philos. Soc., viii, 1842, p. 170.

Melania Nicklíniana, Lea, n. s 12
Bath County, Va., P. H. Nicklin.
Trans. Amer. Philos. Soc., viii, 1842, p. 171.

Melania viridis, Lea, n. s 12
Vicinity of Cincinnati, T. G. Lea.
Trans. Amer. Philos. Soc., viii, 1842, p. 172.

Melania occidentalis, Lea, n. s 12
Vicinity of Cincinnati, Ohio, T. G. Lea.
Trans. Amer. Philos. Soc., viii, 1842, p. 172.

Melania Niagarensis, Lea, n. s 12
Falls of Niagara.
Trans. Amer. Philos. Soc., viii, 1842, p. 173.

Melania globula, Lea, n. s 12
Tennessee, Dr. Troost.
Trans. Amer. Philos. Soc., viii, 1842, p. 174.

Melania altilis, Lea, n. s 13
Susquehanna River, Md.
Trans. Amer. Philos. Soc., viii, 1842, p. 174.

1841. LEA, ISAAC—Continued.

Melania strigosa, Lea, n. s 13
Tennessee, Dr. Troost.
Trans. Amer. Philos. Soc., viii, 1842, p. 175.

Melania virgata, Lea, n. s 13
Tennessee, Dr. Troost.
Trans. Amer. Philos. Soc., viii, 1842, p. 175.

Melania tenebrosa. Lea, n. s 13
Tennessee, Dr. Troost.
Trans. Amer. Philos. Soc., viii, 1842, p. 176.

Section 2.—Plicate Melaniæ.

Melania teres, Lea, n. s 13
Tennessee, Dr. Troost.
Trans. Amer. Philos. Soc., viii, 1842, p. 176.

Melania obtusa, Lea, n. s 13
Tennessee, Dr. Troost.
Trans. Amer. Philos. Soc.. viii, 1842, p. 176.

Melania Lecontiana, Lea, n. s 13
Georgia, Major Le Conte.
Trans. Amer. Philos. Soc., viii, 1842, p. 177.

Melania corrugata, Lea, n. s 13
Tennessee, Dr. Troost.
Trans. Amer. Philos. Soc., viii, 1842, p. 177.

Specific name changed to *rugosa*, because *corrugata* was preoccupied by Lamarck. See *Proc. Amer. Philos. Soc.*, ii, 1842, p. 237, and *Transactions* of the same Society, viii, Corrigenda, between pages 250 and 251.

Melania monozonalis, Lea, n. s 13
Tennessee, Dr. Troost.
Trans. Amer. Philos. Soc., viii, 1842, p. 178.

Melania terebralis, Lea, n. s 13
Tennessee, Dr. Troost.
Trans. Amer. Philos. Soc., viii, 1842, p. 178.

Melania columella, Lea, n. s 13
Tennessee, Dr. Troost.
Trans. Amer. Philos. Soc., viii, 1842, p. 179.

Melania blanda, Lea, n. s 13
Tennessee, Dr. Troost.
Trans. Amer. Philos. Soc., viii, 1842, p. 179.

Melania crebri-costata, Lea, n. s 13
Robinson County, Tenn., Dr. Currey.
Trans. Amer. Philos. Soc., viii, 1842, p. 179.

Melania Curreyana, Lea, n. s 13
Barren River, Ky., Dr. Currey.
Trans. Amer. Philos. Soc., viii, 1842, p. 180.

Melania Edgariana, Lea, n. s 14
Cany Fork, Tenn., Mr. S. M. Edgar.
Trans. Amer. Philos. Soc., viii, 1842, p. 180.

Melania decora, Lea, n. s 14
Tennessee, Dr. Troost.
Trans. Amer. Philos. Soc., viii, 1842, p. 181.

Melania costulata, Lea, n. s 14
Barren River, Kentucky, Dr. Currey.
Trans. Amer. Philos. Soc., viii, 1842, p. 181.

Melania nitida, Lea, n. s 14
Tennessee, Dr. Troost.
[Called *M. nitens*, in *Trans. Amer. Philos. Soc.*, viii, 1842, p. 182.]

Melania plicatula, Lea, n. s 14
Tennessee, Dr. Troost.
Trans. Amer. Philos. Soc., viii, 1842, p. 182.

Melania concinna, Lea, n. s 14
Tennessee, Dr. Troost.
Trans. Amer. Philos. Soc., viii, 1842, p. 183.

Section 3.—Carinate Melaniæ.

Melania Babylonica, Lea, n. s 14
Yellow Springs, Green Co., Ohio, T. G. Lea.
Trans. Amer. Philos. Soc., viii, 1842, p. 183.

1841. LEA, ISAAC—Continued.

Melania exarata, Lea, n. s 14
Tennessee, Dr. Troost.
Trans. Amer. Philos. Soc., viii, 1842, p. 183.

Melania Potosiensis, Lea, n. s 14
Potosi, Missouri, Dr. Troost.
Trans. Amer. Philos. Soc., viii, 1842, p. 184.

Melania acuto-carinata, Lea, n. s 14
Tennessee, Dr. Currey.
Trans. Amer. Philos. Soc., viii, 1842, p. 184.

Melania Warderiana, Lea, n. s 14
Cedar Creek, a branch of Clinch River, Russell Co., Va., J. A. Warder, M. D.
Trans. Amer. Philos. Soc., viii, 1842, p. 185.

Section 4.—Sulcate Melaniæ.

Melania sulcosa, Lea, n. s 14
Tennessee, Dr. Troost.
Trans. Amer. Philos. Soc., viii, 1842, p. 185.

Section 5.—Striate Melaniæ.

Melania striata, Lea, n. s 15
Tennessee, Dr. Troost.
Trans. Amer. Philos. Soc., viii, 1842, p. 186.
Specific name changed to *striatula* because *striata* was preoccupied by Mr. Sowerby, for a fossil species. See *Proc. Amer. Philos. Soc.*, ii, 1842, p. 237, and *Transactions* of the same Society, viii, Corrigenda, between pages 250 and 251.

Melania pilula, Lea, n. s 15
Tennessee, Dr. Troost.
Trans. Amer. Philos. Soc., viii, 1842, p. 186.

Melania circincta, Lea, n. s 15
Tennessee, Dr. Troost.
Trans. Amer. Philos. Soc., viii, 1842, p. 187.

Section 6.—Tuberculate Melaniæ.

Melania venusta, Lea. n. s 15
Tennessee, Dr. Troost.
Trans. Amer. Philos. Soc., viii, 1842, p. 187.

Melania Florentiana, Lea, n. s 15
Tennessee River, Florence, Alabama, Mr. Dutton.
Trans. Amer. Philos. Soc., viii, 1842, p. 188.

Melania Duttoniana, Lea, n. s 15
Waters of Tennessee, Dr. Troost; Duck River, Maury Co., Tenn., Mr. Dutton.
Trans. Amer. Philos. Soc., viii, 1842, p. 188.

Section 7.—Granulate Melaniæ.

Melania Holstonia, Lea, n. s 15
Tennessee, Dr. Troost; Holsten River, Tenn., Mr. S. M. Edgar.
Trans. Amer. Philos. Soc., viii, 1842, p. 189.

Section 8.—Cancellate Melaniæ.

Melania caliginosa, Lea, n. s 15
Tennessee, Dr. Troost.
Trans. Amer. Philos. Soc., viii, 1842, p. 189.

Melania nodulosa, Lea, n. s 15
Tennessee, Dr. Troost.
Trans. Amer. Philos. Soc., viii, 1842, p. 190.

38.

1841. LEA, ISAAC. Description of Nineteen new Species of Colimacea. <*Trans. Amer. Philos. Soc.*, N. S., vii, Part III., pp. 455–465, plates 11 & 12 (colored). Separate, 4°, pp. 1–11, same plates.

Read before the American Philosophical Society, February 21, 1840. Transactions vol. vii, Part III, presented to the meeting of the Society, April 2, 1841. (See *Proc. Amer. Philos. Soc.*, ii, 1841, p. 43.)

The Latin descriptions of the species were published in the *Proc. Amer. Philos. Soc.*, i, pp. 173–175. (See No. 31.)

Bulimus subglobosus, Lea, pl. xi, fig. 1 455
Proc. Amer. Philos. Soc., i, p. 173.

1841. LEA, ISAAC—Continued.

Bulimus virido-striatus, Lea, pl. xi, fig. 2 455
Proc. Amer. Philos. Soc., i, p. 174.

Bulimus virginieus, Lea, pl. xi, fig. 3 456
Proc. Amer. Philos. Soc., i, p. 174, as *Bulimus Virgineus.*

Bulimus Liberianus, Lea, pl. xi, fig. 4 457
Proc. Amer. Philos. Soc., i, p. 174.

Bulimus Woodianus, Lea, pl. xi, fig. 5 457
Proc. Amer. Philos. Soc., i, p. 173.

Bulimus gracilis, Lea, pl. xi, fig. 6 458
Proc. Amer. Philos. Soc., i, p. 173.

Bulimus carinatus, Lea, pl. xi, fig. 7 458
Proc. Amer. Philos. Soc., i, p. 174.

Bulimus bicoloratus, Lea, pl. xi, fig. 8 459
Proc. Amer. Philos. Soc., i, p. 173.

Helix Blandingiana, Lea, pl. xii, fig. 9 459
Proc. Amer. Philos. Soc., i, p. 175.

Helix Balestieriana, Lea, pl. xii, fig. 10 460
Proc. Amer. Philos. Soc., i, p. 175, as *Helix balasteriana.*

Helix Lamarckiana, Lea, pl. xii, fig. 11 461
Proc. Amer. Philos. Soc., i, p. 174.

Helix Cuvieriana, Lea, pl. xii, fig. 12 461
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Helix luteo-fasciata, Lea, pl. xii, fig. 13 462
Proc. Amer. Philos. Soc., i, p. 175.

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Helix Blainvilliana, Lea, pl. xii, fig. 15 463
Proc. Amer. Philos. Soc., i, p. 174.

Helix Humphreysiana, Lea, pl. xii, fig. 16 463
Proc. Amer. Philos. Soc., i, p. 175.

Helix ferruginea, Lea, pl. xii, fig. 17 464
Proc. Amer. Philos. Soc., i, p. 175.

Carocolla bifasciata, Lea, pl. xii, fig. 18 465
Proc. Amer. Philos. Soc., i, p. 174.

Cyclostoma Woodiana, Lea, pl. xii, fig. 19 465
Proc. Amer. Philos. Soc., i, p. 174.

39.

1841. LEA, ISAAC. Continuation of paper On Fresh Water and Land Shells. <*Proc. Amer. Philos. Soc.*, ii, 1841, pp. 30–34.

Read before the American Philosophical Society February 19, 1841, and ordered to be published March 5, 1841. Proceedings for March and April were presented to the Society May 7, 1841. (See *Proc. Amer. Philos. Soc.*, ii, 1841, p. 58.)

The part of the paper published in the Proceedings consists of the Latin descriptions of the species. The full paper was published in the Transactions of the Society in two parts, one containing the descriptions of the first ten species in vol. viii, pp. 230–241, as part of Article XII, and the other completing the paper in vol. ix, pp. 1–17, as part of Article I. (See Nos. 43 and 51.)

Unio Sapotalensis, Lea, n. s 30
Sapotal River, near Tlocatalpam, Mex., Dr. Burrough.
Trans. Amer. Philos. Soc., viii, 1842, p. 233.

Unio Tecomatensis, Lea, n. s 30
Tecomate River, near Tlocatalpam, Mex., Dr. Burrough.
Trans. Amer. Philos. Soc., viii, 1842, p. 234.

Unio Rajahensis, Lea, n. s 30
The Rajah's tanks, Calcutta, Dr. Jay.
Trans. Amer. Philos. Soc., viii, 1842, p. 239.

Unio Bigbyensis, Lea, n. s 30
Big Bigby Creek, Maury Co., Tenn., T. R. Dutton.
Trans. Amer. Philos. Soc., viii, 1842, p. 237.

Unio crocatus, Lea, n. s 31
Savannah River, Georgia, T. R. Dutton.
Trans. Amer. Philos. Soc., viii, 1842, p. 238.

Unio callosus, Lea, n. s 31
Ohio Canal, 12 miles below Columbus, Dr. Jay.
Trans. Amer. Philos. Soc., viii, 1842, p. 239.

1841. LEA, ISAAC—Continued.

Unio Duttonianus, Lea, n. s 31
Ogeechee Canal, Savannah, Georgia, T. R. Dutton.
Trans. Amer. Philos. Soc., viii, 1842, p. 236.

Unio Georgianus, Lea, n. s 31
Stump Creek, Georgia, T. R. Dutton.
Trans. Amer. Philos. Soc., viii, 1842, p. 235.

Anodonta Montezuma, Lea, n. s 31
Central America, Dr. Jay.
Trans. Amer. Philos. Soc., viii, 1842, p. 240.

Anodonta globosa, Lea, n. s 31
Concha Lake, near Tlocatalpam, Mex., Dr. Burrough.
Trans. Amer. Philos. Soc., viii, 1842, p. 241.

Helix Tennesseensis, Lea, n. s 31
Cumberland Mts., Tenn., S. M. Edgar.
Trans. Amer. Philos. Soc., ix, 1844, p. 1.

Carocolla Edgariana, Lea, n. s 31
Cumberland Mts., Tenn., S. M. Edgar.
Trans. Amer. Philos. Soc., ix, 1844, p. 2.

Bulimus Jayanus, Lea, n. s 31
Java. ?
Trans. Amer. Philos. Soc., ix, 1844, p. 2.

Achatina turbinata, Lea, n. s 31
Liberia, Dr. Blanding.
Trans. Amer. Philos. Soc., ix, 1844, p. 2.

Achatina striata, Lea, n. s 31
Liberia, Dr. Blanding.
Trans. Amer. Philos. Soc., ix, 1844, p. 3.

Succinea gracilis, Lea, n. s 31
Java. ?
Trans. Amer. Philos. Soc., ix, 1844, p. 3.

Succinea Wardiana, Lea, n. s 31
Ohio, Dr. Ward.
Trans. Amer. Philos. Soc., ix, 1844, p. 3.

Succinea Totteniana, Lea, n. s 32
Newport, R. I., Col. Totten, U. S. Army.
Trans. Amer. Philos. Soc., ix, 1844, p. 4.

Succinea Nuttalliana, Lea, n. s 32
Oregon., Prof. Nuttall.
Trans. Amer. Philos. Soc., ix, 1844, p. 4.

Succinea aurea, Lea, n. s 32
Springfield, Ohio, T. G. Lea.
Trans. Amer. Philos. Soc., ix, 1844, p. 4.

Succinea Candéana, Lea, n. s 32
Martinique, Lieut. Candé.
Trans. Amer. Philos. Soc., ix, 1844, p. 5.

Succinea fulgens, Lea, n. s 32
Cuba, M. Poey.
Trans. Amer. Philos. Soc., ix, 1844, p. 5.

Succinea Oregonensis, Lea, n. s 32
Oregon, Prof. Nuttall.
Trans. Amer. Philos. Soc., ix, 1844, p. 5.

Succinea inflata, Lea, n. s 32
South Carolina, Prof. Ravenel.
Trans. Amer. Philos. Soc., ix, 1844, p. 5.

Planorbis regularis, Lea, n. s 32
U. States.
Trans. Amer. Philos. Soc., ix, 1844, p. 6.

Planorbis Buchanensis, Lea, n. s 32
Near Cincinnati, Ohio, R. Buchanan.
Trans. Amer. Philos. Soc., ix, 1844, p. 6.

Planorbis bellus, Lea, n. s 32
Tennessee, Dr. Troost.
Trans. Amer. Philos. Soc., ix, 1844, p. 6.

Physa Hildrethiana, Lea, n. s 32
A Lake in Illinois, Dr. Hildreth.
Trans. Amer. Philos. Soc., ix, 1844, p. 7.

1841. LEA, ISAAC—Continued.

Physa inflata, Lea, n. s. 32
Virginia, between the Salt Sulphur and the Sweet Spring, P. H. Nicklin.
Trans. Amer. Philos. Soc., ix, 1844, p. 7.

Physa Troostensis, Lea, n. s. 32
Near Nashville, Tenn., Dr. Troost.
Trans. Amer. Philos. Soc., ix, 1844, p. 7, as *Physa Troostiana*.

Lymnea Philadelphica, Lea, n. s 32
Schuylkill, near Philadelphia.
Trans. Amer. Philos. Soc., ix, 1844, p. 8.

Lymnea Griffithiana, Lea, n. s. 33
Charlotte Lake, Columbia Co., New York, Dr. Griffith.
Trans. Amer. Philos. Soc., ix, 1844, p. 8.

Lymnea Nuttalliana, Lea, n. s. 33
Oregon, Prof. Nuttall.
Trans. Amer. Philos. Soc., ix, 1844, p. 9.

Lymnea bulimoides, Lea, n. s 33
Oregon, Prof. Nuttall.
Trans. Amer. Philos. Soc., ix, 1844, p. 9.

Lymnea exigua, Lea, n. s 33
Tennessee, Dr. Troost.
Trans. Amer. Philos. Soc., ix, 1844, p. 9.

Lymnea planulata, Lea, n. s. 33
White Sulphur Springs, Virginia, P. H. Nicklin.
Trans. Amer. Philos. Soc., ix, 1844, p. 9.

Lymnea fusiformis, Lea, n. s 33
Niagara River, Lewistown, N. Y., Tobias Wagner.
Trans. Amer. Philos. Soc., ix, 1844, p. 10.

Lymnea rustica, Lea, n. s. 33
Poland, Ohio, Dr. Kirtland.
Trans. Amer. Philos. Soc., ix, 1844, p. 10.

Lymnea plica, Lea, n. s. 33
Tennessee, Dr. Troost.
Trans. Amer. Philos. Soc., ix, 1844, p. 10.

Lymnea coarctata, Lea, n. s 33
Newport, R. I., Col. Totten, U. S. Army.
Trans. Amer. Philos. Soc., ix, 1844, p. 11.

Lymnea easta, Lea, n. s 33
Poland, Ohio, Dr. Kirtland.
Trans. Amer. Philos. Soc., ix, 1844, p. 11.

Lymnea parva, Lea, n. s. 33
Cincinnati, Ohio, T. G. Lea.
Trans. Amer. Philos. Soc., ix, 1844, p. 11.

Lymnea curta, Lea, n. s 33
Cincinnati, Ohio, T. G. Lea.
Trans. Amer. Philos. Soc., ix, 1844, p. 11.

Lymnea strigosa, Lea, n. s. 33
Near Cincinnati, Ohio, T. G. Lea.
Trans. Amer. Philos. Soc., ix, 1844, p. 12.

Lymnea Kirtlandiana, Lea, n. s 33
Poland, Ohio, Dr. Kirtland.
Trans. Amer. Philos. Soc., ix, 1844, p. 12.

Lymnea rubella, Lea, n. s. 33
Oahu, Prof. Nuttall.
Trans. Amer. Philos. Soc., ix, 1844, p. 12.

Paludina regularis, Lea, n. s 34
Ohio ?, T. G. Lea.
Trans. Amer. Philos. Soc., ix, 1844, p. 13.

Paludina obtusa, Lea, n. s 34
Ohio, Dr. Kirtland.
Trans. Amer. Philos. Soc., ix, 1844, p. 13.

Paludina Troostiana, Lea, n. s 34
Tenn., Dr. Troost.
Trans. Amer. Philos. Soc., ix, 1844, p. 14.

1841. LEA, ISAAC—Continued.

Anculosa Troostiana, Lea, n. s 34
Tenn., Prof. Troost.
Trans. Amer. Philos. Soc., ix, 1844, p. 15.

Anculosa gibbosa, Lea, n. s 34
Tennessee, Prof. Troost.
Trans. Amer. Philos. Soc., ix, 1844, p. 15.

Anculosa dentata, Lea, n. s 34
Vicinity of Richmond, Va., J. A. Warder, M. D.

Anculosa carinata, Lea, n. s 34
Roanoke River, Lafayette, J. A. Warder, M. D.
Trans. Amer. Philos. Soc., ix, 1844, p. 15.

Anculosa variabilis, Lea, n. s 34
Roanoke River, Lafayette, J. A. Warder, M. D.
Trans. Amer. Philos. Soc., ix, 1844, p. 15.

Amnicola orbiculata, Lea, n. s 34
Springfield, Ohio, and Schuylkill, ? near Philadelphia, T. G. Lea.
Trans. Amer. Philos. Soc., ix, 1844, p. 16.

Amnicola parva, Lea, n. s 34
Springfield, Ohio, T. G. Lea.
Trans. Amer. Philos. Soc., ix, 1844, p. 16.

Io tenebrosa, Lea, n. s 34
Tennessee, S. M. Edgar.
Trans. Amer. Philos. Soc., ix, 1844, p. 17.

40.

1841. LEA, ISAAC. Continuation of Mr. Lea's Paper on Fresh Water and Land Shells. <*Proc. Amer. Philos. Soc.*, ii, July, 1841, pp. 81–83.

Read before the American Philosophical Society, June 18, 1841, and ordered to be published in the Transactions, July 16, 1841.

The whole article was published in two parts in the Transactions, the part relating to the first five species in volume viii, pp. 242–245, and the rest in volume ix, pp. 17–23. (See numbers 43 and 51.)

The portion published in the Proceedings consists of the Latin descriptions.

Proceedings for July, 1841, was received by the Academy Natural Sciences, Phila., on or before November 16, 1841. (See *Proc. Acad. Nat. Sci., Phila.*, i, p. 123.)

Unio Brumbyanus, Lea, n. s 82
Warrior River, Tuscaloosa, Alabama, Prof. Brumby.
Trans. Amer. Philos. Soc., viii, 1842, p. 245.

Unio regularis, Lea, n. s 82
French Broad River, East Tennessee, Dr. Troost and S. M. Edgar.
Trans. Amer. Philos. Soc., viii, 1842, p. 243.

Unio mœstus, Lea, n. s 82
French Broad River, East Tennessee, Dr. Troost and S. M. Edgar.
Trans. Amer. Philos. Soc., viii, 1842, p. 244.

Unio sparsus, Lea, n. s 82
Holston River, East Tennessee, Dr. Troost and S. M. Edgar.
Trans. Amer. Philos. Soc., viii. 1842. p. 242.

Unio argenteus, Lea, n. s 82
Holston River, East Tennessee, Dr. Troost and S. M. Edgar.
Trans. Amer. Philos. Soc., viii, 1842, p. 242.

Helix Mobiliana, Lea, n. s 82
Vicinity of Mobile, Alabama, Charles Lea.
Trans. Amer. Philos. Soc., ix, 1844, p. 17.

Helix minutissima, Lea, n. s 82
Vicinity of Cincinnati, T. G. Lea.
Trans. Amer. Philos. Soc., ix, 1844, p. 17.

Melania turgida, Lea, n. s 82
Holston River, East Tennessee, Dr. Troost and S. M. Edgar.
Trans. Amer. Philos. Soc., ix, 1844, p. 18.

Melania glabra, Lea, n. s 82
Holston River, East Tennessee, Dr. Troost and S. M. Edgar.
Trans. Amer. Philos. Soc., ix, 1844, p. 18.

Melania perfusca, Lea, n. s 82
Calfkiller Creek, Tenn, S. M. Edgar.
Trans. Amer. Philos. Soc., ix, 1844, p. 18.

1841. LEA, ISAAC—Continued.

Melania picta, Lea, n. s..... 82
Holston River, East Tennessee, Dr. Troost and S. M. Edgar.
Trans. Amer. Philos. Soc., ix, 1844, p. 19.

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Coosa River, Alabama, Prof. Brumby.
Trans. Amer. Philos. Soc., ix, 1844, p. 19.

Melania robusta, Lea, n. s..... 83
Coosa River, Alabama, Prof. Brumby.
Trans. Amer. Philos. Soc., ix, 1844, p. 19.

Melania Jayana, Lea, n. s..... 83
Cany Fork, De Kalb Co., Tenn., Dr. Troost.
Trans. Amer. Philos. Soc., ix, 1844, p. 20.

Anculosa rubiginosa, Lea, n. s..... 83
Warrior River, Alabama, Prof. Brumby.
Trans. Amer. Philos. Soc., ix, 1844, p. 20.

Anculosa bella, Lea, n. s..... 83
Warrior River, Alabama, Prof. Brumby.

Anculosa Griffithiana, Lea, n. s..... 83
Coosa River, Alabama, Prof. Brumby.
Trans. Amer. Philos. Soc., ix, 1844, p. 20.

Anculosa tuberculata, Lea, n. s..... 83
Warrior River, Alabama, Prof. Brumby.
Trans. Amer. Philos. Soc., ix, 1844, p. 21.

Valvata bicarinata, Lea, n. s..... 83
Schuylkill River, west side, below Permanent Bridge, H. C. Lea.
Trans. Amer. Philos. Soc., ix, 1844, p. 21.

Paludina angulata, Lea, n. s..... 83
Coosa River, Alabama, Prof. Brumby.
Trans. Amer. Philos. Soc., ix, 1844, p. 22.

Paludina Coosacnsis, Lea, n. s..... 83
Coosa River, Alabama, Prof. Brumby.
Trans. Amer. Philos. Soc., ix, 1844, p. 23.

Paludina cyclostomaformis, Lea, n. s..... 83
Coosa River, Alabama, Prof. Brumby.
Trans. Amer. Philos. Soc., ix, 1844, p. 23, as *Paludina cyclostomatiformis*.

41.

1842. LEA, ISAAC. [On the occurrence of *Melania altilis* on the shore of the Schuylkill near Philadelphia.] <*Proc. Amer. Philos. Soc.*, ii, p. 150.

Verbal communication made March 4, 1842.

Melania altilis, Lea..... 150

42.

1842. LEA, ISAAC. ["On Rocks perforated by Lithodomi, etc., and subsequently raised above the level of the sea."] <*Proc. Amer. Philos. Soc.*, ii, p. 213.

Verbal communication made September 16, 1842.

"The rock from which this specimen was taken is a compact sandstone, composed of minute grains of quartz, cemented by carbonate of lime, and perforated by *Lithodomi* or Boring Mollusca, being identical with the species now inhabiting the neighboring sea coast, and consisting of *Petricola solida, P. denticulata, Lithophagus dactylus*, &c. The included shells are nearly in a perfect state."

43.

1842. LEA, ISAAC. Description of New Fresh Water and Land Shells. <*Trans. Amer. Philos. Soc.*, viii, Part II, Article xii, pp. 163–250. Separate, see (No. 44).

Part II of Vol. VIII of the Transactions presented to the meeting of the Society December 16, 1842. (See *Proc. Amer. Philos. Soc.*, ii, p. 243.)

This article consists of six parts read at different times before the American Philosophical Society.

Pp. 163–190, read January 15, 1841, No. 37.
Pp. 190–191, read December 21, 1838, No. 30.
Pp. 191–229, read October 2, 1840, No. 35.
Pp. 230–241, read February 19, 1841, No. 39.
Pp. 242–245, read June 18, 1841, No. 40.
Pp. 246–249, read October 21, 1842, No. 45.

1842. LEA, ISAAC—Continued.

The place where the Latin description of each species was first published in the Proceedings of the Society is indicated after mention of the name of the species.

Besides descriptions and remarks upon new species, this article contains valuable information upon the number of species at that time known to inhabit the waters of the United States, upon the synonymy of *Melania* or *Anculosa inflata*, Lea (p. 172), and especially upon the gestation of the family Naïades (pp. 230–233).

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Melania lævigata, Lea, pl. 5, fig. 3 165
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Melania Kirtlandiana, Lea, pl. 5, fig. 4 165
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Melania clavæformis, Lea, pl. 5, fig. 10 168
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Melania gracilis, Lea, pl. 5, fig. 11 168
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Melania subsolida, Lea, pl. 5, fig. 12 168
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Melania Ocoéensis, Lea, pl. 5, fig. 13 169
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Melania subcylindracea, Lea, pl. 5, fig. 14 169
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Melania sordida, Lea, pl. 5, fig. 15 170
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Melania regularis, Lea, pl. 5, fig. 16 170
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Melania fuliginosa, Lea, pl. 5, fig. 17 170
Proc. Amer. Philos. Soc., ii, 1841, p. 12.

Melania Nicklíniana, Lea, pl. 5, fig. 18 171
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Melania viridis, Lea, pl. 5, fig. 19 172
Proc. Amer. Philos. Soc., ii, 1841, p. 12.

Melania occidentalis, Lea, pl. 5, fig. 20 172
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Melania Niagarensis, Lea, pl. 5, fig. 21 173
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Melania obtusa, Lea, pl. 5, fig. 28 176
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Melania sulcosa, Lea, pl. 6, fig. 48 185
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Proc. Amer. Philos. Soc., i, 1840, p. 286, as *Unio lenis.*
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This is given as *U. Brumleyanus*, in the *Proc. Amer. Philos. Soc.*, ii, 1841, p. 82.
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Proc. Amer. Philos. Soc., ii, 1843, p. 225.
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Proc. Amer. Philos. Soc., ii, 1843, p. 224.
Unio Foremanianus, Lea, n. s., pl. 27, fig. 64 247
Proc. Amer. Philos. Soc., ii, 1843, p. 224.

1842. LEA, ISAAC—Continued.

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Proc. Amer. Philos. Soc., ii, 1843, p. 225.
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44.

1842. LEA, ISAAC. Observations | on the | Genus Unio, | together with | Descriptions of New Species in the Families Naïades, | Colimacea, Lymnæana, Melaniana | and Peristomiana. | Read before the American Philosophical Society, and originally | published in its Transactions, | with numerous plates. | By Isaac Lea, | [Title] | Vol. iii. | Philadelphia: | Printed for the author. 4°. pp. 88. pls. 5–27.

This is separate of No. 43, repaged, and forms volume III of the series of XIII volumes of "Observations on the Genus Unio."

45.

1842. LEA, ISAAC. Continuation of paper On New Fresh Water and Land Shells. <*Proc. Amer. Philos. Soc.*, ii, pp. 224–225. (October.)

Read before the American Philosophical Society October 21, 1842 The publication of Nos. 23 (August, September, and October, 1842) and 24 (November and December, 1842) of the Proceedings was announced to the Society January 6, 1843 (See *Proc. Amer. Philos. Soc.*, ii, p. 247), but No. 24 was received by the Academy of Natural Sciences, Philadelphia, on or before January 3, 1843. (See *Proc. Acad. Nat. Sci., Phila.*, i, p. 234.)

The full paper appears in the *Trans. Amer. Philos. Soc.*, vol. viii, pp. 246–249, as part of Article XII. (See No. 43.) The portion printed in the Proceedings consists of the Latin descriptions with mention of habitat.

Unio Foremanianus, Lea 224
Coosa River, Alabama, Dr. Brumby.
Trans. Amer. Philos. Soc., viii, 1842, p. 247.
Unio Haleianus, Lea 224
Mississippi River, 30 miles above New Orleans, Josiah Hale, M. D.
Trans. Amer. Philos. Soc., viii, 1842, p. 247.
Unio Dariensis, Lea 225
Near Darien, Georgia, J. H. Couper, Esq.
Trans. Amer. Philos. Soc., viii, 1842, p. 246.
Anodonta Dunlapiana, Lea 225
South Carolina, Mrs. Dunlap.
Trans. Amer. Philos. Soc., viii, 1842, p. 248.

46.

1843. LEA, ISAAC. [On the form and structure of turbinated and discoid univalve shells.] <*Proc. Amer. Philos. Soc.*, ii, pp. 234–235. No. 24. (November and December, 1842.)

Communication made November 18, 1842. No. 24 (November and December, 1842) of the Proceedings was received by the Academy of Natural Sciences of Philadelphia on or before January 3, 1843. (See *Proc. Acad. Nat. Sci., Phila.*, i, p. 234.)

Remarks relating to the conformation of the conchospiral to the logarithmic spiral, with measurements of *Turbo duplicatus*.

47.

1843. LEA, ISAAC. [Change of several specific names of Melaniæ, because of pre-occupation.] <*Proc. Amer. Philos. Soc.*, ii, p. 237. (December, No. 24.)

Communication made December 2, 1842. No. 24 (Nov. & Dec., 1842), of the Proceedings was received by the Academy of Natural Sciences of Philadelphia on or before January 3, 1843. (See *Proc. Acad. Nat. Sci., Phila.*, i, p. 234.)

Melania rufa, to *M. rufescens*.
Melania striata, to *M. striatula*.
Melania lævigata, to *M. lævis*.
Melania corrugata, to *M. rugosa*.

Mr. Lea also proposed the provisional name of *pressus* for his *Unio compressus* (See *Trans. Amer. Philos. Soc.*, iii, N. S., p. 450, under *Symphynota compressa*) should Mr. Sowerby's *Unio compressus* prove to be a true *Unio*.

48.

1843. LEA, ISAAC. Continuation of Paper on Fresh Water Shells. <*Proc. Amer. Philos. Soc.*, ii, pp. 241–243. (December, No. 24.)

Read before the American Philosophical Society December 16, 1842. No. 24 (Nov. & Dec., 1842) of the Proceedings was received by the Academy of Natural Sciences, Philadelphia, on or before January 3, 1843. (See *Proc. Acad. Nat. Sci., Phila.*, i, p. 234.)

The full paper will be found in the Transactions of the American Philosophical Society, ix, pp. 24–30, as part of Article I (see No. 51), the portion published in the Proceedings consisting almost entirely of the Latin descriptions of the species. Besides this the names of four species are changed because of preoccupation.

Names changed because of preoccupation 242

Melania plicatula, to *M. Deshayesiana.*

Melania plicata, to *M. Menkiana=M. Menkiana*, Trans. Amer. Philos. Soc., ix, 1844, p. 24.

Melania exarata, to *M. arata.*

Planorbis lens, to *P. Brogniartiana.*

NEW SPECIES.

Melania Vanuxemiana, Lea, n. s 242
Alabama, Dr. Foreman.
Trans. Amer. Philos. Soc., ix, 1844, p. 25.

Melania ovalis, Lea, n. s 242
Alabama, Dr. Foreman.
Trans. Amer. Philos. Soc., ix, 1844, p. 25.

Melania Haysiana, Lea, n. s 242
Alabama, Dr. Foreman.
Trans. Amer. Philos. Soc., ix, 1844, p. 25.

Melania excisa, Lea, n. s 242
Alabama, Dr. Foreman.
Trans. Amer. Philos. Soc., ix, 1844, p. 25.

SCHIZOSTOMA, Lea, n. g 242
This is a new genus proposed in a foot-note for *Melania excisa* should the animal be found to differ from that of *Melania.*

Melania Ordiana, Lea, n. s 242
Alabama, Dr. Foreman.
Trans. Amer. Philos. Soc., ix, 1844, p. 26.

Melania brevis, Lea, n. s 242
Alabama, Dr. Foreman.
Trans. Amer. Philos. Soc., ix, 1844, p. 26.

Melania oliva, Lea, n. s 242
Alabama, Dr. Foreman.
Trans. Amer. Philos. Soc., ix, 1844, p. 27.

Melania Foremani, Lea, n. s 242
Alabama, Dr. Foreman.
Trans. Amer. Philos. Soc., ix, 1844, p. 27.

Melania torquata, Lea, n. s 242
Tennessee, Dr. Foreman.
Trans. Amer. Philos. Soc., ix, 1844, p. 27.

Melania producta, Lea, n. s 243
Tennessee, Dr. Foreman.
Trans. Amer. Philos. Soc., ix, 1844, p. 28.

Melania curvata, Lea, n. s 243
Tennessee, Dr. Foreman.
Trans. Amer. Philos. Soc., ix, 1844, p. 28.

Melania expansa, Lea, n. s 243
Alabama, Dr. Foreman.
Trans. Amer. Philos. Soc., ix, 1844, p. 28.

Anculosa incisa, Lea, n. s 243
Alabama, Dr. Foreman.
Trans. Amer. Philos. Soc., ix, 1844, p. 28.

Anculosa Foremani, Lea, n. s 243
Alabama, Dr. Foreman.
Trans. Amer. Philos. Soc., ix, 1844, p. 29.

Anculosa solida, Lea, n. s 243
Alabama, Dr. Foreman.
Trans. Amer. Philos. Soc., ix, 1844, p. 29.

1843. LEA, ISAAC—Continued.

Anculosa flammata, Lea, n. s 243
Alabama, Dr. Foreman.
Trans. Amer. Philos. Soc., ix, 1844, p. 30.

Paludina incrassata, Lea, n. s 243
Alabama, Dr. Foreman.
Trans. Amer. Philos. Soc., ix, 1844, p. 30.

Paludina coarctata, Lea, n. s 343
Alabama, Dr. Foreman.
Trans. Amer. Philos. Soc., ix, 1844, p. 30.

49.

1843. LEA, ISAAC. [Communication objecting to Mr. Haldeman's proposed change in the orthography of two of Mr. Lea's species of Unio.] <*Proc. Acad. Nat. Sci., Phila.*, i, pp. 215–216. (Nos. 20, 21, Nov. & Dec., 1842.)

Communicated to the Academy by letter, dated October 31, 1842, and read November 1, 1842. Nos. 20, 21 (Nov. & Dec., 1842) were received by the American Philosophical Society on or before February 3, 1843.

The species referred to are:
Unio Couperiana, Lea, and
Unio Nashvillianus, Lea.

50.

1843. LEA, ISAAC. Description of Twelve New Species of Uniones. By Isaac Lea. Read before the American Philosophical Society August 18, 1843.

Title taken from *Proc. Amer. Philos. Soc.*, iv, p. 11.

This is a printed sheet, dated August 19, 1843, and consists of the descriptions of twelve new species of Uniones contained in a memoir read before the American Philosophical Society August 18, 1843, permission having been given Mr. Lea to publish an abstract of the memoir in anticipation of the Transactions. Received by the Academy of Natural Sciences of Philadelphia on or before August 22, 1843. (See *Proc. Acad. Nat. Sci., Phila.*, i, p. 289.)

The full memoir will be found in the *Trans. Amer. Philos. Soc.*, ix, pp. 275–282. (See No. 54.)

Unio amygdalum, Lea, n. s.
Lake George, Florida, S. B. Buckley.
Trans. Amer. Philos. Soc., ix, p. 275.

Unio Buckleyi, Lea, n. s.
Lake George & Lake Monroe, Florida, S. B. Buckley.
Trans. Amer. Philos. Soc., ix, p. 276.

Unio minor, Lea, n. s.
Lake Monroe & Lake George, Florida, S. B. Buckley.
Trans. Amer. Philos. Soc., ix, p. 276.

Unio fuscatus, Lea, n. s.
Black Creek, Florida, S. B. Buckley.
Trans. Amer. Philos. Soc., ix, p. 277.

Unio Buddianus, Lea, n. s.
Lake George and Lake Monroe, S. B. Buckley.
Trans. Amer. Philos. Soc., ix, p. 277.

Unio trossulus, Lea, n. s.
Lake Monroe, Florida, S. B. Buckley.
Trans Amer. Philos. Soc., ix, p. 278.

Unio occultus, Lea, n. s.
Black Creek and Lake Monroe, Florida, S. B. Buckley.
Trans. Amer. Philos. Soc., ix, p. 279.

Unio Monroensis, Lea, n. s.
Lake Monroe, Florida, S. B. Buckley.
Trans. Amer. Philos. Soc., ix, p. 279.

Unio aheneus, Lea, n. s.
Black Creek, Florida, S. B. Buckley.
Trans. Amer. Philos. Soc., ix, p. 280.

Unio neglectus, Lea, n. s.
North Alabama, Dr. Budd.
Trans. Amer. Philos. Soc., ix, p. 280.

Unio superbus, Lea, n. s.
New Holland, J. C. Jay, M. D.
Trans. Amer. Philos. Soc., ix, p. 281.

Unio aratus, Lea, n. s.
Hab.: ——.
Trans. Amer. Philos. Soc., ix, 282.

51.

1844. LEA, ISAAC. Continuation of Mr. Lea's Paper on Fresh Water and Land Shells. <*Trans. Amer. Philos. Soc.*, ix, Part I, pp. 1–31. Article I.

This article consists of three portions read at different times before the American Philosophical Society.

Pp. 1–17, read February 19, 1841. (See *Proc. Amer. Philos. Soc.*, ii, pp. 33–34.)

Pp. 17–23, read June 18, 1841. (See *Proc. Amer. Philos. Soc.*, ii, pp. 82–83.)

Pp. 24–30, read December 16, 1842. (See *Proc. Amer. Philos. Soc.*, ii, pp. 242–243.)

Part I of vol. ix of the Transactions was presented to the meeting of the American Philosophical Society April 5, 1844. (See *Proc. Amer. Philos. Soc.*, iv, 1844, p. 56.)

Remarks on the genera HELIX and CAROCOLLA (Lamarck) 1

Helix Tennesseensis, Lea 1

Proc. Amer. Philos. Soc., ii, 1841, p. 31.

Carocolla Edgariana, Lea 2

Proc. Amer. Philos. Soc., ii, 1841, p. 31.

Bulimus Jayanus, Lea 2

Proc. Amer. Philos. Soc., ii, 1841, p. 31.

Achatina turbinata, Lea 2

Proc. Amer. Philos. Soc., ii, 1841, p. 31.

Achatina striata, Lea 3

Proc. Amer. Philos. Soc., ii, 1841, p. 31.

Genus SUCCINEA (Draparnaud) 3

Succinea gracilis, Lea 3

Proc. Amer. Philos. Soc., ii, 1841, p. 31.

Succinea Wardiana, Lea 3

Proc. Amer. Philos. Soc., ii, 1841, p. 31.

Succinea Totteniana, Lea 4

Proc. Amer. Philos. Soc., ii, 1841, p. 32.

Succinea Nuttalliana, Lea 4

Proc. Amer. Philos. Soc., ii, 1841, p. 32.

Succinea aurea, Lea 4

Proc. Amer. Philos. Soc., ii, 1841, p. 32.

Succinea Candèana, Lea 5

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Succinea fulgens, Lea 5

Proc. Amer. Philos. Soc., ii, 1841, p. 32.

Succinea Oregonensis, Lea 5

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Succinea inflata, Lea 5

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PLANORBIS (Lamarck) 5

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Proc. Amer. Philos. Soc., ii, 1841, p. 32.

Planorbis Buchanensis, Lea 6

Proc. Amer. Philos. Soc., ii, 1841, p. 32.

Planorbis bellus, Lea 6

Proc. Amer. Philos. Soc., ii, 1841, p. 32.

PHYSA (Lamarck) 7

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Proc. Amer. Philos. Soc., ii, 1841, p. 32.

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Proc. Amer. Philos. Soc., ii, 1841, p. 32, as *Physa Troostensis*.

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Lymnæa exigua, Lea 9

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Proc. Amer. Philos. Soc., ii, 1843, p. 243.
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Proc. Amer. Philos. Soc., ii, 1843, p. 243.
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Proc. Amer. Philos. Soc., ii, 1843, p. 243.
Paludina coarctata, Lea 30
Proc. Amer. Philos. Soc., ii, 1843, p. 243.
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52.

1844. LEA, ISAAC. [Names of twelve new species of Uniones.] <*Proc. Amer. Philos. Soc.*, iv, p. 8.

Reporter's note on the paper entitled "On New Fresh Water Shells," read August 18, 1843. Minutes of the meeting issued May 3, 1844. (See *Proc. Amer. Philos. Soc.*, iv, 1844, p. 81.)

The names of the species are given without descriptions, and are as follows: *U. Buckleyi*, *U. Buddianus*, *U. minor*, *U. amygdalum*, *U. occultus*, *U. Monroensis*, *U. aheneus*, *U. fuscatus*, *U. trosculus*, *U. superbus*, *U. aratus*, *U. neglectus*; but the descriptions were published August 19, 1843. (See No. 50.)

The full article will be found in the *Trans. Amer. Philos. Soc.*, ix, Part II, pp. 275–282. (See No. 54.)

53.

1845. LEA, ISAAC. Descriptions of New Fresh Water and Land Shells. <*Proc. Amer. Philos. Soc.*, iv, pp. 162–168. No. 33 (May–August, 1845).

Read before the American Philosophical Society May 2, 1845. No. 33 (May–August) presented to the meeting of the Society December 5, 1845.

The full paper will be found in the *Trans. Amer. Philos. Soc.*, x, Part 1, pp. 67–101. (See No. 55.) The portion published in the Proceedings consists of the Latin descriptions of the species.

Unio compressissimus, Lea, n. s. 163
Holston River, Tenn., President Estabrook.
Trans. Amer. Philos. Soc., x, 1848, p. 81.

Unio pellucidus, Lea, n. s 163
Chattahoochee River, Georgia, Major Le Conte.
Trans. Amer. Philos. Soc., x, 1848, p. 70.

Unio pernodosus, Lea, n. s. 163
North Carolina, B. W. Budd, M. D.
Trans. Amer. Philos. Soc., x, 1848, p. 71.

Unio atrocostatus, Lea, n. s 163
Claiborne, Ala., Judge Tait; Tuscaloosa, Ala., B. W. Budd, M. D.; Alexandria, La., Josiah Hale, M. D.
Trans. Amer. Philos. Soc., x, 1848, p. 70.

Unio latecostatus, Lea, n. s 163
Tuscaloosa, Ala., B. W. Budd, M. D.
Trans. Amer. Philos. Soc., x, 1848, p. 68.

Unio hippopœus, Lea, n. s 163
Lake Erie, B. W. Budd, M. D.
Trans. Amer. Philos. Soc., x, 1848, p. 67.

Unio simplex, Lea, n. s 163
Black Warrior River, Ala., B. W. Budd, M. D.
Trans. Amer. Philos. Soc., x, 1848, p. 76.

Unio unicolor, Lea, n. s 163
Tuscaloosa, Ala., B. W. Budd, M. D.
Trans. Amer. Philos. Soc., x, 1848, p. 74.

Unio flavescens, Lea, n. s. 163
Black Warrior River, Ala., B. W. Budd, M. D.
Trans. Amer. Philos. Soc., x, 1848, p. 72.

Unio pallescens, Lea, n. s 164
Tuscaloosa, Ala., B. W. Budd, M. D.
Trans. Amer. Philos. Soc., x, 1848, p. 79.

Unio utriculus, Lea, n. s. 164
North Carolina, B. W. Budd, M. D.
Trans. Amer. Philos. Soc., x, 1848, p. 69.

Unio spatulatus, Lea, n. s 164
Rock River, Wisconsin, Capt. Marryatt and B. W. Budd, M. D.
Trans. Amer. Philos. Soc., x, 1848, p. 80.

Unio tumescens, Lea, n. s 164
Alexandria, La., J. Hale, M. D.
Trans. Amer. Philos. Soc., x, 1848, p. 71.

Unio caperatus, Lea, n. s 164
Clinch River, Tenn., Pres't Estabrook.
Trans. Amer. Philos. Soc., x, 1848, p. 75.

Unio fulgidus, Lea, n. s 164
Alexandria, La., J. Hale, M. D.
Trans. Amer. Philos. Soc., x, 1848, p. 73.

Unio pulvinulus, Lea, n. s 164
Tuscaloosa, Ala., B. W. Budd, M. D.
Trans. Amer. Philos. Soc., x, 1848, p. 81.

Unio hyalinus, Lea, n. s 164
Richmond, Va., Major Le Conte.
Trans. Amer. Philos. Soc., x, 1848, p. 69.

Unio Estabrookianus, Lea, n. s 164
Clinch River and Second Creek, Tenn., President Estabrook.
Trans. Amer. Philos. Soc., x, 1848, p. 77.

Unio approximus, Lea, n. s 164
Red River at Alexandria, La., J. Hale, M. D.
Trans. Amer. Philos. Soc., x, 1848, p. 74.

1845. LEA, ISAAC—Continued.

Unio symmetricus, Lea, n. s 164
Red River at Alexandria, La., J. Hale, M. D.
Trans. Amer. Philos. Soc., x, 1848, p. 73.

Unio fuliginosus, Lea, n. s 164
Cobb's Creek, near Philadelphia, R. E. Griffith, M. D.
Trans. Amer. Philos. Soc., x, 1848, p. 78.

Unio caliginosus, Lea, n. s 165
Red River at Alexandria, La., J. Hale, M. D.
Trans. Amer. Philos. Soc., x, 1848, p. 79.

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Southern States, R. E. Griffith, M. D.
Trans. Amer. Philos. Soc., x, 1848, p. 77.

Unio Gouldii, Lea, n. s 165
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Trans. Amer. Philos. Soc., x, 1848, p. 76.

Margaritana minor, Lea, n. s 165
Tennessee, S. M. Edgar, M. D.; North Carolina, B. W. Budd, M. D.
Trans. Amer. Philos. Soc., x, 1848, p. 82.

Anodonta tetragona, Lea, n. s 165
Alexandria, La., J. Hale, M. D.
Trans. Amer. Philos. Soc., x, 1848, p. 82.

Melania Buddii, Lea, n. s 165
Tennessee, B. W. Budd, M. D.
Trans. Amer. Philos. Soc., x, 1848, p. 90.

Melania torta, Lea, n. s 165
Big Creek, Lawrence County, Tenn., J. Clark.
Trans. Amer. Philos. Soc., x, 1848, p. 84.

Melania pernodosa, Lea, n. s 165
Cyprus Creek, Florence, Ala., T. R. Dutton.
Trans. Amer. Philos. Soc., x, 1848, p. 92.

Melania filum, Lea, n. s 165
Alabama, Major Le Conte.
Trans. Amer. Philos. Soc., x, 1848, p. 88.

Melania nobilis, Lea, n. s 165
Alabama, Major Le Conte.
Trans. Amer. Philos. Soc., x, 1848, p. 91.

Melania carino-costata, Lea, n. s 165
Alabama, Major Le Conte; Tennessee, B. W. Budd, M. D.
Trans. Amer. Philos. Soc., x, 1848, p. 88.

Melania abrupta, Lea, n. s 165
Alabama, Major Le Conte.
Trans. Amer. Philos. Soc., x, 1848, p. 85.

Melania pallescens, Lea, n. s 166
Chester District, S. C., Prof. Vanuxem.
Trans. Amer. Philos. Soc., x, 1848, p. 89.

Melania lugubris, Lea, n. s 166
Alabama, Major Le Conte.
Trans. Amer. Philos. Soc., x, 1848, p. 84.

Melania spinalis, Lea, n. s 166
Alabama, Major Le Conte.
Trans. Amer. Philos. Soc., x, 1848, p. 89.

Melania spurca, Lea, n. s 166
Alabama, Major Le Conte.
Trans. Amer. Philos. Soc., x, 1848, p. 85.

Melania harpa, Lea, n. s 166
Tuscaloosa, Ala., B. W. Budd, M. D.
Trans. Amer. Philos. Soc., x, 1848, p. 90.

Melania basalis, Lea, n. s 166
Alabama, Major Le Conte.
Trans. Amer. Philos. Soc., x, 1848, p. 85.

Melania auriculæformis, Lea, n. s 166
Tuscaloosa, Ala., B. W. Budd, M. D.
Trans. Amer. Philos. Soc., x, 1848, p. 88.

Melania pumila, Lea, n. s 166
Tuscaloosa, Ala., B. W. Budd, M. D.
Trans. Amer. Philos. Soc., x, 1848, p. 86.

1845. LEA, ISAAC—Continued.

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Tuscaloosa, Ala., B. W. Budd, M. D.
Trans. Amer. Philos. Soc., x, 1848, p. 83.

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Tuscaloosa, Ala., B. W. Budd, M. D.
Trans. Amer. Philos. Soc., x, 1848, p. 90.

Melania solida, Lea, n. s 166
Tennessee, E. Foreman, M. D.
Trans. Amer. Philos. Soc., x, 1848, p. 83.

Melania crebristriata, Lea, n. s 166
Tuscaloosa, Ala., B. W. Budd, M. D.
Trans. Amer. Philos. Soc., x, 1848, p. 91.

Melania modesta, Lea, n. s 166
Chattahoochee River at Columbus, Georgia, Dr. Boykin.
Trans. Amer. Philos. Soc., x, 1848, p. 86.

Melania Halciana, Lea, n. s 167
Alexandria, La., J. Hale, M. D.
Trans. Amer. Philos. Soc., x, 1848, p. 86.

Melania Alexandrensis, Lea, n. s 167
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Trans. Amer. Philos. Soc., x, 1848, p. 87.

Melania ovoidea, Lea, n. s 167
Alexandria, La., J. Hale, M. D.
Trans. Amer. Philos. Soc., x, 1848, p. 87.

Anculosa squalida, Lea, n. s 167
Tuscaloosa, Ala., B. W. Budd, M. D.
Trans. Amer. Philos. Soc., x, 1848, p. 92.

Anculosa tintinnabulum, Lea, n. s 167
Tennessee, E. Foreman, M. D.; Tuscaloosa, Ala., B. W. Budd, M. D.
Trans. Amer. Philos. Soc., x, 1848, p. 93.

Schizostoma pagoda, Lea, n. s 167
Tuscaloosa, Ala., B. W. Budd, M. D.
Trans. Amer. Philos. Soc., x, 1848, p. 93.

Schizostoma Buddii, Lea, n. s 167
Tuscaloosa, Ala., B. W. Budd, M. D.
Trans. Amer. Philos. Soc., x, 1848, p. 94.

Schizostoma Babylonicum, Lea, n. s 167
Tuscaloosa, Ala., B. W. Budd, M. D.
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Tuscaloosa, Ala., B. W. Budd, M. D.
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Schizostoma laciniatum, Lea, n. s 167
Tuscaloosa, Ala., B. W. Budd, M. D.
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Tuscaloosa, Ala., B. W. Budd, M. D.
Trans. Amer. Philos. Soc., x, 1848, p. 95.

Paludina Halciana, Lea, n. s 167
Alexandria, La., J. Hale, M. D.
Trans. Amer. Philos. Soc., x, 1848, p. 96.

54.

1845? LEA, ISAAC. Description of New Fresh Water and Land Shells. <*Trans. Amer. Philos. Soc.*, ix, pp. 275–282, Part II.

Read before the Amer. Philosophical Society August 18, 1843. For the first publication of the descriptions of the species described in this memoir see No. 50.

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1848. LEA, ISAAC. Description of New Fresh Water and Land Shells. <*Trans. Amer. Philos. Soc.*, x, Part I, pp. 67–101.

Read before the American Philosophical Society May 2nd, 1845. Part I of the Transactions, vol. x, was presented to the meeting of the society January 7, 1848. (See *Proc. Amer. Philos. Soc.*, v, 1848, p. 4.)

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56.

1848. LEA, ISAAC. Observations | on the | Genus Unio, | together with | Descriptions of New Species in the Families Naïades, | Colimacea, Lymnæana, Melaniana, | and Peristomiana. | Read before the American Philosophical Society, and Originally | Published in its Transactions: | with numerous plates. | By Isaac Lea, | Member of the Am. Phil. Soc.; of the Zoological Soc. | of London; of the Imperial Soc. of Nat. | Hist. of Moscow; Etc. Etc. | Vol. IV. | Philadelphia: | Printed for the Author. 4°. pp. 101. with plates 39–42 of vol. ix and 1–9 of vol. x, of the *Trans. Amer. Philos. Soc.*

This consists of numbers 51, 54, and 55, forming volume iv of the series entitled "Observations on the Genus Unio," &c.

57.

1849. LEA, ISAAC. [Upon some Reptilian foot-marks (*Sauropus primævus*) recently discovered near Pottsville, Pa.] <*Proc. Amer. Philos. Soc.*, v, pp. 91–94 (one cut). No. 43, April–September.

Communication made June 15, 1849. (See *Proc. Amer. Philos. Soc.*, v, 1849, p. 109.)

A large portion of this was reprinted in the American Journal of Science and Arts, ix, 1850, pp. 124–126, under the title, "On Reptilian foot-marks in the gorge of the Sharp Mountain near Pottsville, Pa."

58.

1849. LEA, ISAAC. On Traces of a Fossil Reptile (*Sauropus primævus*) found in the Old Red Sandstone. <Report Nineteenth Meeting British Association Advancement of Science, 1849, p. 56.

59.

1850. LEA, ISAAC, and HENRY C. LEA. Description of a New Genus of the Family Melaniana, and of many New Species of the Genus Melania, chiefly collected by Hugh Cuming, Esq., during his Zoological Voyage in the East, and now first described. <*Proc. Zool. Soc.* of London, xviii, 1850, pp. 179–197.

Read before the Zoological Society of London, July 9, 1850. See No. 61.

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Small streams in Guimaras, Mindanao, Luzon and Seyte, Philippines.
Melania crenifera, I. & H. C. Lea, n. s 192
Small river in Java.
Melania nana, I. & H. C. Lea, n. s 192
Mountain streams, isle of Negros, Philippines.
Melania tessellata, I. & H. C. Lea, n. s 192
Hab.—?
Melania crebrum, I. & H. C. Lea, n. s 193
Small streams, Guimaras, Philippines.
Melania reticulata, I. & H. C. Lea, n. s 193
China.
Melania aculeus, Lea. (Redescribed) 193
Siquijor, Naga, Cagayan, and others of the Philippines.
Melania diadema, I. & H. C. Lea, n. s 194
Small streams, isle of Guimaras, Philippines.
Melania cornuta, I. & H. C. Lea, n. s 194
Madagascar.

1850. LEA, ISAAC—Continued.

Melania acanthica, I. & H. C. Lea, n. s 194
Manila and Isle of Negros, Philippines.

Melania zeylanica, I. & H. C. Lea, n. s 194
Seychelles and Ceylon.

Melania polygonata, I. & H. C. Lea, n. s 195
Copan, Central America.

Melania denticulata, I. & H. C. Lea, n. s 195
Mountain streams, Isle of Negros, Philippines.

Melania armillata, I. & H. C. Lea, n. s 195
India.

Melania cochlea, I. & H. C. Lea, n. s 196
Hab.—?

Melania lateritia, I. & H. C. Lea, n. s 196
Philippines.

Melania modicella, I. & H. C. Lea, n. s 196
Timor.

Melania pagoda, I. & H. C. Lea, n. s 197
Isle of Guimaras, Philippines.

60.

1850. LEA, ISAAC. Description of Five New Species of Anodontæ, collected by H. Cuming, Esq., in the East Indies. <*Proc. Zool. Soc. of London*, xviii, 1850, pp. 197–199.

Read before the Zoological Society of London, July 9, 1850.

This, with No. 59, forms No. 61.

Anodonta gracilis, Lea, n. s 197
Dingle, Isle of Panay.

Anodonta crepera, Lea, n. s 198
Bongabon, Luzon, Philippines.

Anodonta tenuis, Lea, n. s 198
Sual, Luzon, Philippines.

Anodonta subcrassa, Lea, n. s 198
Laguna de Bai, Luzon, Philippines.

Anodonta Cumingii, Lea, n. s 199
Malacca.

61.

1851. LEA, ISAAC, and HENRY C[AREY] LEA. Description | of | a New Genus of | the Family Melaniana, | and of many New Species of the | Genus Melania, | chiefly collected by Hugh Cuming, Esq., | during his zoological voyage in the East, and now first | described. | By Isaac Lea and Henry C[arey] Lea, | Philadelphia. | also | Descriptions | of | Five New Species of | Anodontæ, | collected by H. Cuming, Esq., in the East Indies. | By Isaac Lea. | — | London: | Printed by Richard Taylor, Red Lion Court, Fleet Street, | 1851. 8°. Pp. 179–199.

This consists of Nos. 59 and 60.

Sabin in his Bibliotheca Americana mentions an edition of this published in Philadelphia, 1851.

62.

1851. LEA, ISAAC. [Exhibition of large Unios from the Little Miami River, near Cincinnati, Ohio.] <*Proc. Amer. Philos. Soc.*, v, p. 153. No. 45, April–December, 1850.

Verbal communication made June 21, 1850. No. 45 of the Proceedings presented to the meeting of the Society January 3, 1851. (See *Proc. Amer. Philos. Soc.*, v, 1851, p. 178.)

Unio multiplicatus 153

63.

1851. LEA, ISAAC. Remarks on the Semibituminous and Transition Coal from Dauphin on the Susquehanna. <*Journ. Franklin Institute*, xxi, 1851, pp. 142–143.

64.

1851. LEA, ISAAC. [On the fossil bones of a Reptilian Quadruped from Upper Milford, Lehigh Co., Pa.] <*Proc. Acad. Nat. Sci.*, v, pp. 171–172. No. 8, March and April, 1851.

Communication made April 8, 1851. (See *Proc. Acad. Nat. Sci., Phila.*, v, 1851, p. 211.)

In this paper Mr. Lea proposed the specific name *Pennsylvanicus* for these bones, but deemed it advisable to postpone a generic one until a further examination shall prove the diagnosis, and then apply a descriptive one. The generic name *Clepsysaurus* was proposed by Mr. Lea for this animal May 20, 1851. See No. 67.

65.

1851. LEA, ISAAC. [On a communication from Prof. Agassiz to the Natural History Society of Boston relating to the soft parts of American fresh water Mollusca.] <*Proc. Amer. Philos. Soc.*, v, pp. 187–189, No. 46, Jan.–June, 1851.

Remarks made before the American Philosophical Society March 21, 1851. (See *Proc. Amer. Philos. Soc.*, v, 1851, p. 212.)

In this paper Mr. Lea calls the attention of the American Philosophical Society to several papers of his read before the Society and published in its Transactions, describing several of the important parts mentioned by Prof. Agassiz in his communication to the Boston Society of Natural History. See also No. 74.

66.

1851. LEA, ISAAC. [On the great size of certain Naïades from the neighborhood of Cincinnati, Ohio.] <*Proc. Amer. Philos. Soc.*, v, pp. 191–193, No. 46, Jan.–June, 1851.

Communication made April 4, 1851. No. 46, Jan.–June, 1851, of the Proceedings received by the Smithsonian Institution on or before July 16, 1851. (See *Proc. Amer. Philos. Soc.*, v. 1851, p. 212.)

The weights of the hard parts of the following species are given:

Unio multiplicatus.
Unio crassidens.
Unio crassus.
Margaritana complanata.
Unio pustulosus.
Unio undulatus.
Unio alatus.
Margaritana undulata.
Unio tuberculatus.
Unio verrucosus.
Unio lacrymosus.
Unio obliquus.
Unio rectus.
Unio rubiginosus.
Unio securis.

67.

1851. LEA, ISAAC. [The generic name *Clepsysaurus* applied to the fossil reptile discovered by Dr. J. Y. Schelley in Upper Milford, Pa.] <*Proc. Acad. Nat. Sci., Phila.*, v, p. 205, No. 9, May and June, 1851.

Remarks made before the Academy Natural Science, Phila., May 20, 1851. No. 9, May and June, 1851, of the Proceedings was received by the British Museum on or before October 7, 1851. (See *Proc. Acad. Nat. Sci., Phila*, v, 1851, p. 307.)

CLEPSYSAURUS, Lea, n. g 205
Clepsysaurus pennsylvanica, Lea 205

The specific name was proposed by Mr. Lea April 8, 1851. (See No. 64.)

68.

1851. LEA, ISAAC. [A new locality for Zircon, Reading, Pa.] <*Proc. Acad. Nat. Sci., Phila.*, v, p. 211, No. 9, May and June, 1851.

Verbal communication made before the Academy Natural Sciences, Phila., June 3, 1851. (See *Proc. Acad. Nat. Sci.. Phila.*, v, 1851, p. 307.)

69.

1851. LEA, ISAAC. On the "Wave Theory" in regard to the Dynamics of Earthquakes. <*Proc. Acad. Nat. Sci., Phila.*., v, p. 261, No. 11, Sept. and Oct., 1851.

Verbal communication made before the Academy Natural Science, Phila., September 2, 1851. (See *Proc. Amer. Philos. Soc.*, v, 1851, p. 232.)

70.

1851. LEA, ISAAC. On the genus Acostæa of D'Orbigny. <*Proc. Acad. Nat. Sci., Phila.*, v, p. 277, No. 11, Sept. & Oct., 1851.

Reporters' notes on paper, by Mr. Lea, read before the Academy Natural Sciences, Phila., October 21, 1851. No. 11, Sept. & Oct., 1851, of the Proceedings was received by the Amer. Philos. Society on or before December 5, 1851. (See *Proc. Amer. Philos. Soc.*, v, 1851, p. 232.)

The full paper was published in the *Journal of the Academy*, vol. 11, 1850–1854, pp. 125–131. See No. 71.

Mulleria Ferrussacii, new name 277
Mulleria Guaduasana (D'Orbigny), Lea 277

71.

1851. LEA, ISAAC. On the Genus Acostæa of D'Orbigny, a Fresh Water Lamellibranchia. <*Journ. Acad. Nat. Sci., Phila.*, ii, new series, pp. 125–131.

Read before the Academy Natural Sciences, Phila., October 21, 1851.
(See *Proc. Amer. Philos. Soc.*, v, 1851, p. 232.)

"Mr. Lea expressed his convictions that this shell, now so well described by M. D'Orbigny, belonged to the same genus which Ferussac described in 1823 in the Mem. of the Soc. Nat. Hist., vol. 1, under the name of *Mulleria*, if it be not of the same species, a single specimen (adult) of which had then only been seen. Ferussac, considering the general resemblance of *Mulleria* to *Ostrea*, thought it ought to be put alongside of, if not in, the latter genus. Brongniart and Latreille thought it ought to go between *Spondylus* and *Arca*.

"Other authors had assigned it to various positions, while some doubted whether it was anything more than a malformation. The perfect specimen, in its junior and adult state, if it be Mulleria, now banish all difficulties. Mr. Lea thinks now, in placing *Mulleria* (*Acostæa*) in its true position at the head of the order *Monomyaria*, where it makes the link with Dimyaria, it forms an easy transition from the first to the second order. Thus retaining the trace of one while it passes so curiously into the other. *Nihil per saltum*.

"Mr. Lea, under the impression that D'Orbigny's *Acostæa Guaduasana* may prove to be a distinct species from the shell described by Ferussac under the generic name of *Mulleria*, while it may belong to the same genus, proposes to give the name of that distinguished zoologist to it. That of *Guaduasana* should be retained of course for D'Orbigny's species. The genus would then represent *Mulleria Ferussacii* and *Mulleria Guaduasana*."

Reporters' notes on this paper. See No. 70.

72.

1851. LEA, ISAAC. [Necrological Notice of Richard C. Taylor.] <*Proc. Acad. Nat. Sci., Phila.*, v, pp. 290–296, No. 11, Sept. & Oct., 1851. Separate, see No. 73.

Remarks made before the Academy Natural Sciences, Phila., October 28, 1851. (See *Proc. Amer. Philos. Soc.*, v, 1851, p. 232.) For separate, see No. 73.

73.

1851. LEA, ISAAC. Biographical Sketch of Richard Cowling Taylor. 8°. pp. 1–8, without title page or cover.

A reprint of No. 72. Received by the American Philosophical Society on or before December 5, 1851. (See *Proc. Amer. Philos. Soc.*, v, 1851, p. 232.)

74.

1851. LEA, ISAAC. [Correspondence between Mr. Lea and Prof. Agassiz, relating to the observations of Mr. Lea on the anatomy of the Naïades, laid before the Amer. Philosophical Society, March 21, 1851.] <*Proc. Amer. Philos. Soc.*, v, pp. 218–221, No. 47, July, 1851—February, 1852.

Read before the American Philosophical Society September 19, 1851. No. 47 of the Proceedings presented to the Society March 5, 1852. (See *Proc. Amer. Philos. Soc.*, vi. p. 253.) See, also, No. 65.

75.

1851. LEA, ISAAC. [Account of the Life of Richard C. Taylor.] <*Proc. Amer. Philos. Soc.*, v, pp. 226–228, No. 47, July, 1851—February, 1852.

Communicated to the American Philosophical Society November 7, 1851. No. 47 of the Proceedings presented to the Society March 5, 1852. (See *Proc. Amer. Philos. Soc.*, v, p. 253.)

76.

1852. LEA, ISAAC. A | Synopsis | of the | Family of Naïades. | by | Isaac Lea, | [Title] | Third Edition, greatly enlarged and Improved. | Philadelphia: | Blanchard and Lea. | 1852. 4to. pp. i–xx, 17–88.

Presented to the American Philosophical Society on or before May 21, 1852. (See *Proc. Amer. Philos. Soc.*, v, p. 269)

PREFACE.

"Few branches of Natural History have advanced with more rapidity than that which embraces the part of Malacology, which, in this volume, is presented in the form of a Synopsis. This edition is therefore very much enlarged, having quite double the quantity of matter of the former one. The arrangement of the genera will be found to have been somewhat changed. I have added an extensive alphabetical index of species and synonyms, which will be found extremely useful for reference; and the number of additional species will be found to be rather more than that which composed the whole in the previous edition."

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77.

1852. LEA, ISAAC. Description of a Fossil Saurian of the New Red Sandstone Formation of Pennsylvania; with some account of that Formation. <*Journ. Acad. Nat. Sci., Phila.*, ii, New Series, pp. 185–202. Part III. Plates xvii to xix. For separate see No. 79.

Read and presented for publication in the Journal of the Academy, May 11, 1852. Extra copies printed for the author May, 1852. (See *Journ. Acad. Nat. Sci.*, ii, N. S., p. iv.)

CLEPSYSAURUS, Lea 198
Clepsysaurus pennsylvanicus, Lea 199

For first mention of name see *Proc. Acad. Nat. Sci., Phila.*, v, 1851, p. 73.

78.

1852. LEA, ISAAC. On some New Fossil Molluscs in the Carboniferous Slates of the Anthracite Seams of the Wilkesbarre Coal Formation. <*Journ. Acad. Nat. Sci., Phila.*, ii, New Series, Part III, pp. 203–206. Plate xx. For separate see No. 79.

Read before the Academy Natural Sciences, May 18, 1852. Extra copies printed for the author June, 1852. (See *Journ. Acad. Nat. Sci., Phila.*, ii, N. S., p. iv.)

Modiola Wyomingensis, Lea, n. s, pl. 20, fig. 1 a 205
Modiola minor, Lea, n. s., pl. 20, fig. 2 205
Posidonia ? clathrata, Lea, n. s., pl. 20, fig. 1 b 205
Posidonia ? perstriata, Lea, n. s., pl. 20, fig. 3 a 205
Posidonia ? distans, Lea, n. s., pl. 20, fig. 3 b 205
Palæoniscus ? Leidyiana, Lea, n. s., pl. 20, figs. 4, 5 206

79.

1852. LEA, ISAAC. Descriptions of New Species of the Family Unionidæ. <*Trans. Amer. Philos. Soc.*, x, pp. 253–294.

Read before the American Philosophical Society, March 5, 1852. Presented to the Academy of Natural Sciences, Phila., June 1, 1852. (See *Proc. Acad. Nat. Sci., Phila.*, vi, p. xxii. (With No. 81 and No. 82 forms No. 83.)

A list of the species without remarks or descriptions was printed in the *Proc. Amer. Philos. Soc.*, v. 1852, pp. 251–252.

"It is now some years since I presented to this society a continuation of my discoveries of new forms from the fresh waters and soil of the United States. Since that period, owing to the kindness of many valued friends, I have been enabled to get together a much larger number by far than could have been anticipated. These have come chiefly from localities hitherto little examined, and which have produced new species more or less interesting.

"I am aware that many persons doubt the existence of so extended a production of species, but this arises from the want of a knowledge of them, closely cultivated and analytically examined. An organic form, instituted by nature, must be recognized as distinct, for it will remain in a state of autonomy to the end of its term. It is the duty of the zoologist to bring to the investigation an eye practiced in discrimination, and a judgment experienced in analysis, as well as also an honest intention of purpose, that he may give the best and most accurate results to his investigations."

Unio sordidis, Lea, n. s., pl. xii, fig. 1 254
Abbeville District, S. C., J. P. Barratt, M. D.
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Unio perstriatus, Lea, n. s., pl. xii, fig. 3 255
Abbeville District, S. C., J. P. Barratt, M. D.
Unio Tuomeyi, Lea, n. s., pl. xiii, fig. 4 256
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Unio Barrattii, Lea, n. s., pl. xiii, fig. 5 256
Abbeville District, S. C., J. P. Barratt, M. D.
Unio decoratus, Lea, n. s., pl. xiii, fig. 6 257
Abbeville District, S. C., Dr. Barratt and Mr. Tuomey.
Unio rufusculus, Lea, n. s., pl. xiv, fig. 7 258
Abbeville District, S. C., J. P. Barratt, M. D.
Unio Whiteianus, Lea, n. s., pl. xiv, fig. 8 258
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Unio Lazarus, Lea, n. s., pl. xiv, fig. 9 259
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Unio merus, Lea, n. s., pl. xv, fig. 10 260
Abbeville District, S. C., J. P. Barratt, M. D.
Unio concavus, Lea, n. s., pl. xv, fig. 11 260
Abbeville District, S. C., J. P. Barratt, M. D.
Unio inceptus, Lea, n. s., pl. xv, fig. 12 261
Abbeville District, S. C., J. P. Barratt, M. D.
Unio buxeus, Lea, pl. xv, fig. 13 261
Abbeville District, S. C., J. P. Barratt, M. D.
Unio pygmæus, Lea, n. s., pl. xv, fig. 14 262
Abbeville District, S. C., J. P. Barratt, M. D.
Unio fraternus, Lea, n. s., pl. xvi, fig. 15 263
Columbus, Georgia, Dr. Boykin; Abbeville District, S. C., J. P. Barratt, M. D.

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Washington County, Georgia, Rev. G. White.

Unio Forbesianus, Lea, n. s., pl. xvi, fig. 17 264
Savannah River, Major Le Conte.

Unio Kleinianus, Lea, n. s., pl. xvii, fig. 18 265
Suwanee River, Florida, Major Le Conte.

Unio satur, Lea, n. s., pl. xvii, fig. 19 265
Alexandria, Louisiana, J. Hale, M. D.; Lake Calcashue, near New Orleans, Mr. Anthony.

Unio Lamarekianus, Lea, n. s., pl. xvii, fig. 20 266
Caddo River, Arkansas, Prof. Powell; Washita River, near the Hot Springs, Arkansas, Dr. Hale.

Unio hebes, Lea, n. s., pl. xviii., fig. 21 267
Oconee River, near Athens, Georgia, Major Le Conte.

Unio Moussonianus, Lea, n. s., pl. xviii, fig. 22 268
Georgia, J. P. Barratt, M. D.

Unio nigerrimus, Lea, n. s., pl. xviii, fig. 23 268
Alexandria, Louisiana, J. Hale, M. D.

Unio Prevostianus, Lea, n. s., pl. xix, fig. 24 269
Eutowah River, Georgia, Mr C. M. Wheatley.

Unio Powellii, Lea, n. s., pl. xix, fig. 25 270
Saline River, Arkansas, J. Hale, M. D., and Professor Powell.

Unio affinis, Lea, n. s., pl. xix, fig. 26 271
Alexandria, Louisiana, J. Hale, M. D.

Unio proximus, Lea, n. s., pl. xx, fig. 27 271
Georgia, J. P. Barratt, M. D.

Unio Reeveianus, Lea, n. s., pl. xx, fig. 28 272
Alexandria, Louisiana, J. Hale, M. D., and Prof. Powell.

Unio luridus, Lea, n. s., pl. xx, fig. 29 273
Coosawattee River, Murray County, Georgia, Dr. Boykin.

Unio Clarkianus, Lea, n. s., pl. xxi, fig. 30 273
Williamsport, Tenn., Mr. Jos. Clark; Georgia or Alabama, Mr. C. M. Wheatley.

Unio Floridensis, Lea, n. s., pl. xxi, fig. 31 274
Chăcktáhachi River, West Florida, Major Le Conte.

Unio succissus, Lea, n. s., pl. xxi, fig. 32 275
West Florida, Major Le Conte.

Unio Oregonensis, Lea, n. s., pl. xxii, fig. 33 275
Columbia River, Oregon, Mr. C. M. Wheatley.

Unio Rumphianus, Lea, n. s., pl. xxii, fig. 34 276
West Georgia (?), Dr. Budd.

Unio sagittiformis, Lea, n. s., pl. xxii, fig. 35 277
Oconee River, near Athens, Georgia, Major Le Conte.

Unio Stewardsonii, Lea, n. s., pl. xxiii, fig. 36 278
Chattanooga River, Tenn., Thomas Stewardson, M. D.

Unio Hanleyianus, Lea, n. s., pl. xxiii, fig. 37 279
Coosawattee River, Murray County, Georgia, Dr. Boykin.

Unio placitus, Lea, n. s., pl. xxiii, fig. 38 279
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Unio Keinerianus, Lea, n. s., pl. xxiii, fig. 40 281
Coosawattee River, Murray County, Georgia, Dr. Boykin.

Unio Ingallsianus, Lea, n. s., pl. xxiv, fig. 41 282
Siam, Thomas R. Ingalls, M. D.

Unio nigellus, Lea, n. s., pl. xxiv, fig. 42 283
Chattahoochee River, near Columbia, Georgia, Dr. Boykin.

Unio nux, Lea, n. s., pl. xxiv, fig. 43 283
Alabama River, Mr. Wheatley.

Unio nigrinus, Lea, n. s., pl. xxiv, fig. 44 284
West Florida, Major Le Conte.

Anodonta denigrata, Lea, n. s., pl. xxv, fig. 45 285
Campbell County, East Tennessee, President Estabrook.

Anodonta opaca, Lea, n. s., pl. xxv, fig. 46 285
Near New Orleans, Mons. Janin; Little Rock, Arkansas, Prof. Powell.

Anodonta Californiensis, Lea, n. s., pl. xxv, fig. 47 286
Rio Colorado, California, J. L. Le Conte, M. D.

1852. LEA, ISAAC—Continued.

Anodonta Trautwiniana, Lea, n. s., pl. xxvi, fig. 48 287
Carthagena, South America, John C. Trautwine, Esq.
Anodonta Wheatleyi, Lea, n. s., pl. xxvi, fig. 49 287
Para, South America, Mr. C. M. Wheatley.
Anodonta Shaefferiana, Lea, n. s., pl. xxvi, fig. 50 288
Horn Lake Creek, Tenn., Mr. Shaeffer.
Anodonta Linnæana, Lea, n. s., pl. xxvii, fig. 51 289
Lake Concordia, Louisiana, Mr. C. M. Wheatley.
Anodonta oblita, Lea, n. s., pl. xxviii, fig. 52 290
Campbell County, East Tennessee, President Estabrook.
Anodonta virens, Lea, n. s., pl. xxviii, fig. 53 290
Red River, at Alexandria, Louisiana, J. Hale, M. D.
Anodonta tortilis, Lea, n. s., pl. xxviii, fig. 54 291
Carthagena, South America, J. C. Trautwine, Esq.
Anodonta Schröteriana, Lea, n. s., pl. xxix, fig. 55 292
Rio Negro, Brazil, Mr. C. M. Wheatley.
Anodonta Arkansensis, Lea, n. s., pl. xxix, fig. 56 293
Little Arkansas, J. L. Le Conte, M. D.
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80.

1853. LEA, ISAAC. On a | Fossil Saurian | of the | New Red Sandstone Formation | of Pennsylvania, | with some | account of that formation. | also: on some | New Fossil Molluscs, | in the | Carboniferous Slates | of the | Anthracite Seams of the Wilkesbarre Coal Formation, | by | Isaac Lea, | Member of the Am. Phil. Soc.; of the Acad. of Nat. Sciences of Philadelphia; of the Zool. Soc. of | London; of the Imperial Soc. of Moscow, &c. &c. | Philadelphia: | Merrihew & Thompson, Printers, No. 7 Carter's Alley. | 1852. 4to. pp. 1–28. plates xvii to xx.

Presented to the Academy Natural Sciences, Phila., June 1, 1853, and to Amer. Philos. Soc., June 18, 1853.

This consists of Nos. 77 and 78, with title page and repaging.

81.

1852. LEA, ISAAC. Description of a New Genus (Basistoma) of the Family Melaniana, together with some New Species of American Melaniæ. <*Trans. Amer. Philos. Soc.*, x, New Series, pp, 295–302.

Read before the American Philosophical Society, March 5, 1852. This, with Nos. 79 and 82, forms No. 83. See No. 83.

The genus *Basistoma* is also characterized, and a list of the species, without remarks or descriptions, is given in the *Proc. Amer. Philos. Soc.*, v, 1852, p. 252. See No. 94.

BASISTOMA, Lea, n. g. 295
Characters also given in *Proc. Amer. Philos. Soc.*, v, 1852, p. 252.
Schizochilus proposed for *Schizostoma*, the later having been used for a fossil genus by M. Bronn (foot note) 295
Basistoma Edwardsii, Lea, n. s., pl. xxx, fig. 1 296
River Tocatinus, South America, Amory Edwards, Esq.
Melania perstriata, Lea, n. s., pl. xxx, fig. 2 296
Coosa River, Alabama, Prof. Brumby; Huntsville, Tenn., Mr. J. Clark; Tennessee, Prof. Troost.
Melania sculptilis, Lea, n. s., pl. xxx, fig. 3 297
Tennessee, Mr. J. Clark.
Melania Clarkii, Lea, n. s., pl. xxx, fig. 4 297
Duck Creek, Tenn., Mr. Joseph Clark.
Melania Brumbyi, Lea, n. s., pl. xxx, fig. 5 298
Coosa River, Alabama, Prof. Brumby; Huntsville, Alabama, Mr. J. Clark.
Melania oblita, Lea, n. s., pl. xxx, fig. 6 298
Tennessee?
Melania furva, Lea, n. s., pl. xxx, fig. 7 299
Branch of Coosa River, Alabama. Prof. Brumby.
Melania Sellersiana, Lea, n. s., pl. xxx, fig. 8 299
Cany Fork, Tennessee, Mr. Coleman Sellers.
Melania oppugnata, Lea n. s., pl. xxx, fig. 9 300
Alabama River, Mr. C. M. Wheatley.

1852. LEA, ISAAC—Continued.

Melania Saffordii, Lea, n. s., pl. xxx, fig. 10 300
Lebanon, Wilson County, Tennessee, Mr. James M. Safford.

Melania pinguis, Lea, n. s., pl. xxx, fig. 11 301
Lebanon, Wilson County, Tenn., Mr. J. M. Safford.

Melania gibbosa, Lea, n. s., pl. xxx. fig. 12 301
Scioto River, Ohio, Mr. C. M. Wheatley.

Systematic Index 302

82.

1852. LEA, ISAAC. Description of a New Species of Helix, from California, and a new Characteristic Form of certain American Colimaceæ. <*Trans. Amer. Philos. Soc. Phila.*, x, Part 3, 1852, pp. 303–305.

Read before the American Philosophical Society, March 5, 1852. With Nos. 79 and 81 forms No. 83. See No. 83.

Outline of paper given, *Proc. Amer. Philos. Soc.*, v, 1852, pp. 252–253.

Helix Lecontii, Lea, n. s., pl. xxx, fig. 13 303
St. Francisco, J. L. Le Conte, M. D.

Accessory Column in the Family Colimacea 304

"When recently examining very closely the structure of some of our *Helices*, I observed what had before escaped my attention, a pillar or an additional column, placed like a fulcrum (buttress) in the interior, against the wall of the ordinary column, at the distance of a fifth to a third of a revolution of the whorl from the aperture"

"I have detected the fulcrum in the following species, and as several of the species of Dr. Binney and Dr. Gould are unknown to me, I think it likely to be found in some of them:

Carocolla spinosa, Lea.
Carocolla Edgariana, Lea.
Helix hirsuta, Say.
Helix monodon, Racket.
Helix Leai, Ward.
Helix leporina, Gould.
Helix Lecontii, Lea.
Polygyra Troostiana, Lea.
Polygyra Dorfuilliana, Lea."

On the use of personal names for species in natural history 305

83.

1852. LEA, ISAAC. Observations | on the | Genus Unio, | together with | Descriptions of New Species in the Families Unionidæ, Colimacea | and Melaniana. | Read before the American Philosophical Society, and originally | published in its Transactions. | by | Isaac Lea, | [Title] | with numerous plates. | Vol. V. | Philadelphia: | Printed for the Author. 4°. pp. 62, with plates 12–30 of Vol. X of the Trans. Amer. Philos. Soc.

This consists of Nos. 79, 81, and 82, and was presented to the Academy Natural Sciences June 1, 1852. (See *Proc. Acad. Nat. Sci. Phila.*, vi, p. xxii.)

84.

1852. LEA, ISAAC. On the Fossil Foot-Marks in the Red Sandstones of Pottsville, Schuylkill County, Penna. <*Trans. Amer. Philos. Soc. Phila.*, x, Part 2, pp. 307–317, plates 31, 32, and 33.

For separate see No. 85.

Read before the American Philosophical Society, April 2, 1852. Ordered to be published in the Transactions of the Society, April 16, 1852. Part 2, vol. x of the Transactions laid before the Society June 18, 1852. (See *Proc. Amer. Philos. Soc.*, v, p. 275.)

Remarks on the opinions of Prof. H. D. Rogers and Prof. L. Agassiz on the character and age of these foot-prints 307–312

Prof. Agassiz, asserting his belief before the Amer. Assoc. Adv. Sci. that these were not made by any air-breathing animal, Mr. Lea still holds to his "own opinions, as expressed in a former communication, as to the fact of these '*foot-marks*' being impressed by a four-footed air-breathing animal, allied to the 'Saurians,' having four toes on the hind foot and five on the fore foot."

Remarks on foot prints that have been discovered analogous to those under discussion 312–314

An extended diagnosis of the foot prints of *Sauropus primævus*, plates xxxi and xxxii 314–316

Description of other organic remains in the same formation, pl. xxxiii 316–317

85.

1852. LEA, ISAAC. On the Fossil Foot-Marks | in the | Red Sandstone of Pottsville, | Pennsylvania, | by | Isaac Lea, | Member of the Am. Phil. Soc.; of the Acad. of Nat. Sciences of Philada.; | of the Zool. Soc. of London; of the Imperial | Soc. of Moscow, &c. &c. | [from the Transactions of the American Philosophical Society, Vol. x.] | Philadelphia: | Printed for the Author. | 1852. 4to. Pp. 1–13, plates 31–33.

This is a separate of No. 84 and was received from the author by the Academy Natural Sciences, Phila., June 1, 1852. (See *Proc. Acad. Nat. Sci., Phila.*, v, p. xxii.)

86.

1852. LEA, ISAAC. [On a remarkably large specimen of *Dipsas plicatus*, Leach.] <*Proc Acad. Nat. Sci. Phila.*, vi, p. 52.

Verbal communication made March 2, 1852.

87.

1852. LEA, ISAAC. [On the period of maturing and ejecting the young in the family Unionidæ.] <*Proc. Acad. Nat. Sci. Phila.*, vi, p. 54.

Verbal communication made March 23, 1852.

88.

1852. LEA, ISAAC. Description of a new species of Symphynote Unio. <*Proc. Acad. Nat. Sci.*, vi, pp. 54–55. No. 2, March and April, 1852.

Read before the Academy Natural Sciences, Phila., March 9, 1852, and printed with the Proceedings of March 30. See (*Proc. Amer. Philos. Soc.*, v, p. 271.)

Unio Cumingii, Lea, n. s 54

Northern part of China, H. Cuming.

Journ. Acad. Nat. Sci., iv, 1860, p. 240.

89.

1852. LEA, ISAAC. Definition of the term Species and remarks on the Classification of the Family Naïades. <*Proc. Acad. Nat. Sci. Phila.*, vi, pp. 57–58. No. 2, March and April, 1852.

Communication made to the Academy Natural Sciences, Phila., April 6, 1852. (See *Proc. Amer. Philos. Soc.*, v, p. 271.)

90.

1852. LEA, ISAAC. [Remarks on a stone slab containing supposed imprints of human feet.] <*Proc. Acad. Nat. Sci., Phila.*, vi, p. 106.

Verbal communication made June 1, 1852.

91.

1852. LEA, ISAAC. [On some shells from the drift near Philadelphia.] <*Proc. Acad. Nat. Sci., Phila.*, vi, p. 106.

Verbal communication made June 1, 1852.

92.

1852. LEA, ISAAC. Description of a new species of Eschara, from the Eocene of Alabama. <*Proc. Acad. Nat. Sci., Phila.*, vi, pp. 109–110, No. 3, June and July, 1852. 2 cuts.

Read before the Academy Natural Sciences, Phila., June 1, 1852, and printed with minutes of June 29, 1852 (See *Proc. Amer. Philos. Soc.*, v, p. 281.)

Eschara Clairbornensis, Lea, n. s 110

93.

1852. LEA, ISAAC. Descriptions of New Species of the Family Unionidæ. <*Proc. Amer. Philos. Soc.*, v, pp. 251–252.

Read before the American Philosophical Society March 5, 1852, and published in the *Trans. Amer. Philos. Soc.*, x, new series, pp. 253–294. See No. 80.

The portion printed in the Proceedings consists merely of a list of the species described, without descriptions or remarks.

94.

1853. LEA, ISAAC. Description of a New Genus (Basistoma) of the Family Melaniana, together with some New Species of American Melaniæ. <*Proc. Amer. Philos. Soc.*, v, p. 252. No. 48, February and December, 1852.

Read before the American Philosophical Society March 5, 1852, and published in the *Trans. Amer. Philos. Soc.*, x, pp. 275–302. See No. 81. No. 48 of the Proceedings presented to the meeting of the Society February 4, 1853. (See *Proc. Amer. Philos. Soc.*, v, p. 313.)

The characters of the genus Basistoma are given in this place; but, as the full article in the Transactions was published before No. 48 of the Proceedings, the date of the publication of the Proceedings amounts to little in determining priority of description. The rest of the article in the Proceedings consists of a list of the species without descriptions.

BASISTOMA, Lea..... 252

95.

1853. LEA, ISAAC. Description of a New Species of Helix, from California, and a new characteristic form of certain American Colimacea. <*Proc. Amer. Philos. Soc.*, v, pp. 252–253. No. 48, February and December, 1852.

Read before the American Philosophical Society March 5, 1852, and published in the Transactions of the Society, x, new series, pp. 303–305.

See No. 82. The portion published in the Proceedings consists only of an outline of the full paper.

96.

1853. LEA, ISAAC. Notice of the Mya nodulosa, Wood. <*Proc. Acad. Nat. Sci., Phila.*, vi, p. 368. No. 9, May & June, 1853.

Read before the Academy Natural Sciences June 14, 1853. (See *Proc. Amer. Philos. Soc.*, v, p. 339.)

"In the examination of the Molluscs of the Imperial Cabinet of Vienna, I observed a specimen of the family *Naiades*, which I immediately recognized to be *Mya nodulosa*, described and figured by Wood (General Conchology and Index Testaceorum), and which was placed by me among the nodulous *Uniones* in my Synopsis. * * * * * The inspection of the specimen, however, enabled me at once to place the species in its proper position in the system, the teeth, particularly the lateral ones, having equal and parallel striæ, as in the genus Prisodon, Schum.=*Castalia*, Lam. The cardinal and lateral teeth are both robust, and of the form of the ponderous subrotund *Uniones*, but the deeply-impressed striæ separate it from that genus and place it in *Prisodon*."

97.

1853. LEA, ISAAC. [On the *Castalia sulcata*, Krauss and other Naiades.] <*Proc. Acad. Nat. Sci., Phila.*, vi, pp. 376–377. No. 10, July and August, 1853.

Letter to Dr. Leidy, dated Langen Schwalback, Duchy of Nassau, June 21, 1853, and read before the Academy August 2, 1853. (See *Proc. Amer. Philos. Soc.*, v, p. 344.)

Unio Kraussii, Lea, new name.
Castalia sulcata, Krauss.
Dipsas plicatus, Leach.
Unio superbus, Lea.

98.

1853. LEA, ISAAC. [On the *Mulleria*, Ferussac; and Aeostæa, D'Orbigny.] <*Proc. Acad. Nat. Sci., Phila.*, vi, p. 435. No. 12.

Verbal communication made November 22, 1853. (See *Proc. Amer. Philos. Soc.*, vi, p. 7.)

99.

1853. LEA, ISAAC. [On a specimen of Gneiss bored by Pholas dactylus.] <*Proc. Acad. Nat. Sci., Phila.*, vi, p. 438. No. 12.

Verbal communication made December 13, 1853. (See *Proc. Amer. Philos. Soc.*, vi, p. 7.)

100.

1854. LEA, ISAAC. [On *Acostæa Gnaduasana*, D'Orbigny.] <*Proc. Acad. Nat. Sci., Phila.*, vii, pp. 1–2. No. 1, January and February, 1854.

Verbal communication made January 3, 1854. (See *Proc. Amer. Philos. Soc.*, vi, p. 20.)

101.

1854. LEA, ISAAC. Rectification of Mr. T. A. Conrad's "Synopsis of the Family of Naïades of North America," published in the "Proceedings of the Academy of Natural Sciences of Philadelphia, February, 1853." <*Proc. Acad. Nat. Sci., Phila.*, vii, pp. 236–249. No. 6, Nov. and Dec., 1854.

Read before the Academy Natural Sciences, Phila., February 7, 1854.

(See *Proc. Amer. Philos. Soc.*, vi, p. 83.)

Separate as follows:

Rectification | of | Mr. T. A. Conrad's | "Synopsis of the Family of Naïades of North America," | published in the | "Proceedings of the Academy of Natural Sciences | of Philadelphia, | February 1853," | by | Isaac Lea. | — | Philadelphia. | Merrihew and Thompson, Printers, | Merchant Street, above Fourth. | 1854. 12°. pp. 16. Pamphlet.

Received by the Academy Natural Sciences on or before February 6, 1855. (See *Proc. Acad. Nat. Sci., Phila.*, vii, p. xxii)

"Finding in it numerous errors in regard to the dates of my memoirs and the synonymy of my species, I desire that the correction of part at least of these errors may reach the scientific public by the same channel."

"I do not mean to correct the synonymy of this Synopsis, but I trust to satisfy every one that it can be of no value whatever where the dates are so erroneously stated."

"He usually takes the date of the title of the *Volume* of the Transactions of the American Philosophical Society, where the species may have been described, while the volumes published by the Society, as they are almost universally by all scientific bodies, were really issued *in parts* at different times, and generally in three parts. Thus when part first of any volume was issued, the Society distributed copies immediately to their subscribers and to all the principal societies in Europe and in this country; and, when I have had in such part a memoir, I had two hundred and fifty copies printed for my own use, one hundred and fifty of which I at once distributed at home and abroad where I thought they might be useful to science. When part second of the same volume may have been printed the same process took place, and when part third was rea y it took the same course, with this addition, viz, a title-page for the *whole volume* was printed for the convenience of those who might choose to have their three parts bound into a volume, and this title bore the date of the last part. Thus most of these copies of my descriptions, with figures, may have been in the hands of the zoologists of Europe and America for two or three years prior to the date at which Mr. Conrad has stated them as being published. In addition, he usually pays no regard to the dates of my descriptions printed in the Proceedings of the American Philosophical Society or otherwise, prior to their subsequent issue in the Transactions. Thus on the 18th August, 1843, I read a number of descriptions before that society, and permission was granted to me to print them at once. The following day, August 19th, these descriptions were printed and circulated. Now Mr. Conrad in his synopsis dates these as published in 1846! three years after they were actually issued printed."

"The question as to fixing with precision the date of discovery of a new form, has been one of anxiety and doubt among men of science. For myself I have never felt satisfied that it was judicious to make any change in the long received rule of permanently fixing the date of publication to be that, when the paper was read before and deposited with the officers of a learned society, with a view to printing."

"Receiving as authority the dates issued by individuals in publications is exceedingly dangerous. There may be antedates, and these can rarely be detected. In the case of a deposit of a paper with a learned society, intended for publication, and a record being made of it at the time, there cannot be any probability by collusion of the officers to make a change."

1854. LEA, ISAAC—Continued.

"As much of Mr. Conrad's Synopsis involves the names and claims of Mr. Rafinesque, it becomes necessary to say something in explanation of my having in my papers adopted but few of his names."

Here follow four or five pages, in which Mr. Lea, by quoting the opinions of many conchologists, clearly shows that the descriptions of Mr. Rafinesque's species are so incomplete that they are worthless in determining species.

"We come now to by far the most important part of Mr. Conrad's Synopsis, the dates."

"In order to occupy as little space as possible, I will endeavor to tabulate these errors. To take up my species in the order in which they occur in his Synopsis and correct them, seriatim, would require great space. I commence with my first memoir, in 1827, and proceed chronologically to 1852.

Unio lanceolatus, Lea.	Dated by Mr. Conrad,	1832
" irroratus, Lea.*	" "	†1852

Published in Memoir read before and deposited with the Am. Phil. Soc., Nov. 2, 1827, and printed in Trans., vol. iii, p. 259. Distributed early in 1828.‡ Noticed in Silliman's Jour., Oct., 1829, and the Trans. cited for 1827.

Unio occidens, Lea.	Dated by Mr. Conrad,	1832‡
" rubiginosus, Lea.	" "	1832
" heterodon, Lea.	" "	1833
" multiradiatus, Lea.	" "	1832
" securis, Lea.	" "	1832

Published in Memoir read before and deposited with the Am. P. S., March 6th, 1829, and printed in Trans., vol. iii, p. 401. Distributed in May or June, 1829. The receipt of it, with comments, is acknowledged in a letter from Cincinnati, June 27th, 1829, and it is noticed in Silliman's Journal, vol. xvi, 1829.

Unio acutissimus, Lea.	Dated by Mr. Conrad, Aug.	1834
" asper, Lea.	" "	1832
" pustulosus, Lea.	" "	1832
" obesus, Lea.	" "	1832
" castaneus, Lea.	" "	1832
" varicosus, Lea.	" "	1832
" Congaræus, Lea.	" "	1832
" decisus, Lea.	" "	1832
" glans, Lea.	" "	1832
" fabalis, Lea.	" "	1832
" lens, Lea.	" "	1832
" cuprinus, Lea.	" "	1834
" pustulatus, Lea.	" "	1832
" ebenus, Lea.	" "	1832
" stapes, Lea.	" "	1832
" trapezoides, Lea.	" "	1838

Published in Memoir read before and deposited with the Am. P. S., May 7th, 1830, and printed in Trans., vol. iv., p. 63. Distributed in the latter end of 1831, and acknowledged by correspondents as received in that year. A long review of this, and the supplement read May 20, 1831, appeared in Silliman's Jour. for Jan., Feb., and March, 1832. It will be observed that Mr. Conrad makes *three dates* for the species described in this memoir, not one of which is correct on his own principle of the issue of printed copies being the time of date. This memoir and the following supplement having eighteen plates and nearly fifty species, all colored, required a long time to finish, hence the delay between reading the memoir and the issuing of it complete.

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*The four other species of this memoir are given by Mr. Conrad without any date.

†This may be a typographical error and intended to be 1832, the same as *lanceolatus*, above it. Giving Mr. Conrad the benefit of this, it will still be found that he has dated these two species *five years* after they were read to the Society, *four years* after they were printed and issued, and *two years* after the date of the title-page of the whole volume.

‡A correspondent in Cincinnati, under date of April 25th, 1828, acknowledges the receipt of this paper, and comments on the descriptions and the plates, and particularly the anatomical parts. He had received impressions of the plates in the previous December.

1854. LEA, ISAAC—Continued.

Unio angulatus, Lea. Dated by Mr. Conrad,	1832	Published in Memoir (supplement) read before and deposited with the Am. Phil. Soc., May 20th, 1831, and printed in Trans., vol. iv., p. 105. This supplement was issued with the memoir. Therefore all these dates of Mr. Conrad's are one year after the memoir was distributed.
" subovatus, Lea. " "	1832	
" arcæformis, Lea. " "	1832	
" pileus, Lea. " "	1832	
" trigonus, Lea. " "	1832	
" subrotundus, Lea. " "	1832	
Unio globosus, Lea. Dated by Mr. Conrad,	1834	Published in Memoir read before and deposited with the Am. Phil. Soc., March 16th, 1832, and printed in Trans., vol. v., p. 23. I was absent most of 1832 in Europe, and the large number of plates (19) with figures of 86 species, in this and the two following supplements, all colored, required much time, and it was not until some time in Aug. or Sept., 1834, that the whole was finished and issued printed.
" capsæformis, Lea. " "	1834	
" Haysianus, Lea. " "	1834	
" Ravenelianus, Lea. " "	Aug. 1834	
" Schoolcraftensis, Lea. " "	" 1834	
" geometricus, Lea. " "	1834	
Anodonta plana, Lea. " "	Aug. 1834	
" incerta, Lea. " "	1834	
Unio Conradicus, Lea. Dated by Mr. Conrad,	1834	Supplement read before and deposited with the Am. Phil. Soc., March 15, 1833, and printed in Trans., vol. v., p. 59. The same observations apply as to the preceding.
" Cooperianus, Lea. " "	1834	
" dromas, Lea. " "	1834	
" perdix, Lea. " "	1834	
" pictus, Lea. " "	1834	
" Sowerbyanus, Lea. " "	1834	
" Troostensis, Lea. " "	1834	
Unio fulvus, Lea. Dated by Mr. Conrad,	1834	Second supplement read before and deposited with the Am. Phil. Soc., Feb. 7th, 1834, and printed in Trans., vol. v., p. 95. The same observations apply as to the preceding.
" Shepardianus, Lea. " "	1834	
" confertus, Lea. " "	Aug. 1834	
" modioliformis, Lea. " "	1834	
Unio arctior, Lea. Dated by Mr. Conrad,	1838	Published in Memoir read before and deposited with the Am. Phil. Soc., Dec. 19th, 1834, and printed in Trans., vol. vi., p. 1. All these are inserted in the first edition of my Synopsis, issued in 1836, probably in Dec.
" coccineus, Lea. " "	1838	
" Fisherianus, Lea. " "	1838	
" Hydianus, Lea. " "	1838	
" jejunus, Lea. " "	1838	
" interruptus, Lea. " "	1838	
" turgidus, Lea. " "	*1837	
" venustus, Lea. " "	1838	
Unio Barnesianus, Lea. Dated by Mr. Conrad,	1838	Published in Memoir read before and deposited with the Amer. Phil. Soc., Feb. 5th, 1836, and printed in Trans., vol. vi., p. 23. All these are inserted in the first edition of my Synopsis, issued in 1836, probably in Dec.
" Cumberlandianus, Lea. " "	1838	
" folliculatus, Lea. " "	1838	
" glaber, Lea. " "	1838	
" Jayensis, Lea. " "	1838	
" Leecontianus, Lea. " "	1838	
" Muhlfeldianus, Lea. " "	1838	
" notatus, Lea. " "	1838	
" pumilis, Lea. " "	1838	
" Medellinus, Lea. " "	1838	
" Roanokensis, Lea. " "	1838	
" simus, Lea. " "	1838	
" Hopetonensis, Lea. " "	1838	
" Vanuxemensis, Lea. " "	1838	
" Zieglerianus, Lea. " "	1838	
Anodonta Wardiana, Lea. " "	1838	

*I cannot understand why Mr Conrad dates this one year prior to the other species in the same memoir. In his Synopsis he makes it a synonym to *Mortoni* Con., which he described in No. 1 of his Monography, Dec. 1835.

1854. LEA, ISAAC—Continued.

Unio pliciferus, Lea. Dated by Mr. Conrad,	1838	Published in Memoir read before and deposited with the Amer. Phil. Soc., July 15th, 1836, and printed in Trans., vol. vi. Issued in Synopsis, 1836.
Margaritana arcula, Lea. Dated by Mr. Conrad,	1838	Published in Memoir read before and deposited with the Amer. Phil. Soc., Aug. 19th, 1836, and printed in Trans., vol. vi. Issued in Synopsis, 1836.
Unio discus, Lea. Dated by Mr. Conrad,	1838	Published in Memoir read before and deposited with the Amer. Phil. Soc., Nov. 4th, 1836, and printed in Trans., vol. vi. Issued in Synopsis, 1836.
" Dorfeuillianus, Lea. Dated by Mr. Conrad,	1838	
" Menkeanus, Lea. " "	1838	
Unio Rangianus, Lea. Dated by Mr. Conrad,	1838	Published in Memoir read before and deposited with the Amer. Phil. Soc., July 21st, 1837, and printed in Trans., vol. vi. Issued in Synopsis, 1836.
Unio amœnus, Lea. Dated by Mr. Conrad,	1841	Published in Memoir read before and deposited with the Am. Phil. Soc., Oct. 2d, 1840. Oct. 16th ordered to be printed. Issued in the Proceedings of that month, (No. 13, p. 285), which was laid on the table by the Reporter, Nov. 6th, 1840. Printed in the Trans., vol. viii, p. 191.
" biangulatus, Lea. " "	1841	
" Bournianus, Lea. " "	1841	
" Boydianus, Lea. " "	1841	
" Cincinnatiensis, Lea. " "	1841	
" cuneolus, Lea. " "	1842	
" dactylus, Lea. " "	1841	
" dollabelloides, Lea. " "	1842	
" Edgarianus, Lea. " "	1841	
" exiguus, Lea. " "	1842	
" Geddingsianus, Lea. " "	1841	
" Holstonensis, Lea. " "	1841	
" lenior, Lea. " "	1841	
" Lesueurianus, Lea. " "	1842	
" lineatus, Lea. " "	1841	
" inerassatus, Lea. " "	1842	
" plenus, Lea. " "	1842	
" striatus, Lea. " "	1841	
" strigosis, Lea. " "	1841	
" Tennesseensis, Lea. " "	1842	
" tener, Lea. " "	1842	
" tortivus, Lea. " "	1842	
" tuberosus, Lea. " "	*1842	
Unio Brumbyanus,† Lea. Dated by Mr. Conrad,	1841	Published in Memoir read before and deposited with the Am. Phil. Soc., June 18th, 1841. Issued in Proceedings, No. 19, for October, 1841. These dates of Mr. Conrad's are therefore correct.
" regularis, Lea. " "	1841	
" mœstus, Lea. " "	1841	
" sparsus, Lea. " "	1841	
" argenteus, Lea. " "	1841	

*It will be observed that Mr. Conrad continues the singular error of frequently dating my species of the *same memoir* in different years, while some of them in the same memoir he inserts without a date, viz.: *Stonensis, subangulatus, obesus,* &c.

†At page 245 of Mr. Conrad's Synopsis in "Proceedings," this is given as a species; at page 250 it is made a synonym to *glans* Lea.

1854. LEA, ISAAC—Continued.

Unio amygdalus, Lea.	Dated by Mr. Conrad,		1846
" Buckleyi, Lea.	"	"	1846
" Buddianus, Lea.	"	"	1846
" fuscatus, Lea.	"	"	1846
" minor, Lea.	"	"	1846
" Monroensis, Lea.	"	"	1841
" neglectus, Lea.	"	"	1846

Published in Memoir read before and deposited with the Amer. Phil. Soc., Aug. 18th, 1843. Permission given by the Society to print the descriptions. They were printed and issued the following day, Aug. 19th, 1843. Receipt of these printed descriptions acknowledged by the Society Sept. 15th, 1843. Therefore six of these are dated by Mr. Conrad *three years* after they were printed and issued ! !

Anodonta tetragona, Lea.	Dated by Mr. Conrad,		1846

Published in Memoir read before and deposited with the Amer. Phil. Soc., May 2, 1845. Printed descriptions issued in the Proceedings of that month, No. 33, p. 165, issued Aug., 1845. Generally the new species of this memoir are dated correctly (in 1845) by Mr. Conrad. The *tetragona* is one year wrong, and *M. minor* has no date.

"In my last Memoir read before and deposited with the American Philosophical Society, March 5th, 1852, there are over fifty descriptions of new species. Two of these Mr. Conrad has omitted, viz.: *U. Oregonensis* Lea, and *U. succissus* Lea. Twelve he inserts without date; the remainder are dated correctly—1852.

"This finishes the corrections of the numerous *errors of date* in Mr. Conrad's Synopsis, as regards the long series of my memoirs in the Trans. Am. Phil. Soc. It will be seen by the above tables of corrections that he has, under his own rule of the time of issuing them printed, erroneously dated *about ninety of my species*. I do not pretend in this rectification to correct the *synonymy* of the Synopsis, as I have stated before. It would require too much space and time. Those interested in the subject must judge between the two synopses."

102.

1855. LEA, ISAAC. [Exhibition of the tanned skin of the Walrus used for polishing cutlery.] <*Proc. Acad. Nat. Sci., Phila.*, vii, p. 265.

Exhibited February 20, 1855.

103.

1855. LEA, ISAAC. Description of a new Mollusk from the Red Sandstone near Pottsville, Pa. <*Proc. Acad. Nat. Sci., Phila.*, vii, pp. 340–341. No. 9, May and June, 1855, with pl. iv. For separate see No. 104.

Read before the Academy Natural Sciences, Phila., May 22, 1855. (See *Proc. Amer. Philos. Soc.*, vi, p. 135.)

Cypricardia Leidyi, Lea, n. s 341

104.

1855. LEA, ISAAC. Description | of a | New Mollusk | from | The Red Sandstone, near Pottsville, Pa. | [Read before the Academy of Natural Sciences, May 22, 1855.] | By | Isaac Lea. | — | Philadelphia, | Merrihew and Thompson, Printers, | Merchant Street, above Fourth. | 1855. This is a separate of No. 103.

Received by the Academy Natural Sciences, Phila., on or before September 4, 1855. (See *Proc. Acad. Nat. Sci., Phila.*, vii, p. xxxiv.)

105.

1856. LEA, ISAAC. [Notes on Auroras.] <*Proc. Amer. Philos. Soc.*, vi, pp. 162–163. No. 54, May–Dec., 1855.

Read before the American Philosophical Society December 7, 1855. (See *Proc. Amer. Philos. Soc.*, vi, p. 173.)

106.

1856. LEA, ISAAC. On the New Red Sandstone Formation of Pennsylvania. <*Proc. Acad. Nat. Sci., Phila.*, viii, pp. 77–78. No. 2, March–April, 1856.

Notes on a paper bearing the above title intended for publication in the Journal of the Academy (see No. 111), and presented to the Academy April 15, 1856. This forms part of No. 111, which was presented to the Library of the Academy June 17, 1856. (See *Proc. Acad. Nat. Sci.*, viii, p. xiii.)

Centemodon sulcatus, Lea, n. s ..... 87.

107.

1856. LEA, ISAAC. Description of a New Sub-Genus of Naïades. <*Proc. Acad. Nat. Sci., Phila.*, viii, p. 79. No. 2, March and April, 1856.

Read before the Academy Natural Sciences, Phila., April 1, 1856. (See *Proc. Acad. Nat. Sci.*, viii, p. xiii.)

Subgenus PLAGIODON, Lea, n. s. g 79

Journ. Acad. Nat. Sci., iii, p. 317.

Plagiodon isocardiodes, Lea, n. s 79

Rio Plata, M. E. Verreau, Paris.

Journ. Acad. Nat. Sci., iii, p. 318, as *P. isocardioides*.

108.

1856. LEA, ISAAC. Description of a New Species of Triquetra, Klein (Hyria, Lamarck). <*Proc. Acad. Nat. Sci., Phila.*, viii, p. 79. No. 2, March and April, 1856.

Read before the Academy Natural Sciences, Phila., April 1, 1856. (See *Proc. Acad. Nat. Sci., Phila.*, viii, p. xiii.)

Triquetra lanceolata, Lea, n. s 79

China, ? Mr. Asa Fitch.

Journ. Acad. Nat. Sci., Phila., iii, p. 319, as *Triquetra contorta*.

109.

1856. LEA, ISAAC. Description of New Fresh-water Shells from California. <*Proc. Acad. Nat. Sci., Phila.*, viii, pp. 80–81. No. 2, March and April, 1856.

Read before the Academy Natural Sciences, Phila., April 1, 1856. (*Proc. Acad. Nat. Sci., Phila.*, viii, p. xiii.)

POMPHOLYX, Lea, n. g 80

Journ. Acad. Nat. Sci., vi, 1866, p. 156.

Pompholyx effusa, Lea, n. s 80

Sacramento River, California, Dr. Trask.

Journ. Acad. Nat. Sci., vi, 1866, p. 156.

Melania Shastaensis, Lea, n. s 80

Shasta and Scott Rivers, California, Dr. Trask.

Journ. Acad. Nat. Sci., v, 1863, p. 337, as *Goniobasis Shastaensis*.

Melania nigrina, Lea, n. s 80

Clear Creek, Shasta County, California, Dr. Trask.

Journ. Acad. Nat. Sci., v, 1863, p. 302.

Physa triticea, Lea, n. s 80

Shasta County, California, Dr. Trask.

Journ. Acad. Nat. Sci., vi, 1866, p. 176.

Planorbis Traskii, Lea, n. s 80

Kern Lake, Tulare County, California, Dr. Trask.

Journ. Acad. Nat. Sci., vi, 1866, p. 157.

Lymnæa proxima, Lea, n. s 80

Arroya San Antonio, California, Dr. Trask.

Journ. Acad. Nat. Sci., vi, 1866, p. 160.

1856. LEA, ISAAC—Continued.

Ancylus patelloides, Lea, n. s 80
Sacramento River, California, Dr. Trask.
Journ. Acad. Nat. Sci., vi, 1866, p. 185.
Species already described:
Margaritana margaritifera, Lea.
Anodonta Wahlamatensis, Lea.
Anodonta angulata, Lea.
Helix Oregonensis, Lea.
Helix Nicklinianа, Lea.
Helix Californiensis, Lea.
Lymnæa exigua, Lea.
Lymnæa pallida, Adams.
Physa heterostropha, Say.
Melania occata, Hinds.
Melania seminalis (*Paludina*, Hinds).
Planorbis trivolis, Say.
Planorbis ammon, Gould.

110.

1856. LEA, ISAAC. Description of Twenty-five New Species of Exotic Uniones. <*Proc. Acad. Nat. Sci., Phila.*, viii, p. 92–95. No. 2, March and April, 1856.
Read before the Academy Natural Sciences, Phila., April 15, 1856. (See *Proc. Acad. Nat. Sci., Phila.*, viii, p. xiii.)

Unio Hainesianus, Lea, n. s 92
Siam, S. R. House, M. D.
Journ. Acad. Nat. Sci, iii, 1858, p. 289.

Unio Myersianus, Lea, n. s 92
Siam, S. R. House, M. D.
Journ. Acad. Nat. Sci., iii, 1858, p. 290.

Unio Housei, Lea, n. s 92
Siam, S. R. House, M. D.
Journ. Acad. Nat. Sci., iii, 1858, p. 291.

Unio gravidus, Lea, n. s 93
Siam, S. R. House, M. D.
Journ. Acad. Nat. Sci., iii, 1858, p. 292.

Unio inornatus, Lea, n. s 93
Siam, S. R. House, M. D.
Journ. Acad. Nat. Sci., iii, 1858, p. 293.

Unio lutens, Lea, n. s 93
Newville Burmah, Mrs. Vinton.
Journ. Acad. Nat. Sci., iii, 1858, p. 291, as *Unio luteus*.

Unio eximius, Lea, n. s 93
Siam, S. R. House, M. D.
Journ. Acad. Nat. Sci., iii, 1858, p. 294.

Unio tumidulus, Lea, n. s 93
Siam, S. R. House, M. D.
Journ. Acad. Nat. Sci., iii, 1858, p. 295.

Unio rusticus, Lea, n. s 93
Siam, S. R. House, M. D.
Journ. Acad. Nat. Sci., iii, 1858, p. 294.

Unio sagittarius, Lea, n. s 93
Siam, S. R. House, M. D.
Journ. Acad. Nat. Sci., iii, 1858, p. 298.

Unio substriatus, Lea, n. s 93
Siam, S. R. House, M. D.
Journ. Acad. Nat. Sci., iii, 1858, p. 300, as *Unio subtriatus*.

Unio scobinatus, Lea, n. s 93
Siam, T. R. Ingalls, M. D., S. R. House, M. D.
Journ. Acad. Nat. Sci., iii, 1858, p. 299.

Unio humilis, Lea, n. s 93
Siam, S. R. House, M. D.
Journ. Acad. Nat. Sci., iii, 1858, p. 296.

1856. LEA, ISAAC—Continued.

Unio phasclus, Lea, n. s 94
Siam, S. R. House, M. D.
Journ. Acad. Nat. Sci., iii, 1858, p. 297.

Unio Verreauianus, Lea, n. s 94
Cape of Good Hope, M. E. Verreau.
Journ. Acad. Nat. Sci., iii, 1858, p. 301.

Unio Africanus, Lea, n. s 94
Cape of Good Hope, M. E. Verreau.
Journ. Acad. Nat. Sci., iii, 1858, p. 300.

Unio Shurtleffianus, Lea, n. s 94
Sina River, India, Major Le Conte; Ahmednugger, India, S. Shurtleff, M. D.
Journ. Acad. Nat. Sci., iii, 1858, p. 302.

Unio effulgens, Lea, n. s 94
Brazil, B. W. Budd, M. D.
Journ. Acad. Nat. Sci., iii, 1858, p. 303.

Unio Dünkerianus, Lea, n. s 94
River Macacoú, Rio de Janeiro, Brazil, Prof. Dünker; New Grenada, M. E. Verreau.
Journ. Acad. Nat. Sci., iii, 1858, p. 305.

Unio Shuttleworthii, Lea, n. s 94
Australia, R. J. Shuttleworth, Esq., Berne, Switzerland.
Journ. Acad. Nat. Sci., iii, 1858, p. 304.

Unio nucleus, Lea, n. s 94
Siam, S. R. House, M. D.
Journ. Acad. Nat. Sci., iii, 1858, p. 306.

Unio Wheatleyanus, Lea, n. s 94
Rio Plata, M. A. D'Orbigny; Rio Negro, C. M. Wheatley, Esq.
Journ. Acad. Nat. Sci., iii, 1858, p. 308.

Unio Brownii, Lea, n. s 95
Mocha, ? Asia, Capt. Geo. Brown.
Journ. Acad. Nat. Sci., iii, 1858, p. 307.

Unio suavidicus, Lea, n. s 95
River Amazon, M. E. Verreau, Paris.
Journ. Acad. Nat. Sci., iii, 1858, p. 309.

Unio umbrosus, Lea, n. s 95
Medellin River, Mexico, M. Burrough, M. D.
Journ. Acad. Nat. Sci., iii, 1858, p. 311.

111.

1856. LEA, ISAAC. On the | New Red Sandstone Formation | of Pennsylvania. | — | Description | of a | New Sub-Genus of Naïades. | Description | of a | New Species of Triquetra. | Description | of | New Fresh Water Shells | from California. | Description | of | Twenty-five New Species of Exotic Uniones, | by | Isaac Lea, LL. D., &c., &c. | — | Philadelphia: | Merrihew & Thompson, Printers, | Lodge street, north side Pennsylvania Bank. | 1856. 8°. pp. 1–8.

Extracts from the Proceedings of the Academy Natural Sciences, Phila., and consists of Nos. 106, 107, 108, 109, and 110 of this Catalogue.

Presented to the Library of the Academy on or before June 17, 1856. (See *Proc. Acad. Nat. Sci., Phila.*, viii, p. xiii.)

112.

1856. LEA, ISAAC. Description of four New Species of Exotic Uniones. <*Proc. Acad. Nat. Sci.*, viii, p. 103. No. 3, May and June, 1856.

Read before the Academy May 13, 1856. No. 3 of the Proceedings was received by the American Philosophical Society on or before August 15, 1856. (See *Proc. Amer. Philos. Soc.*, p. 207.) This forms part of No. 126.

Unio Coloradoensis, Lea, n. s 103
Rio Colorado, Texas, B. W. Budd, M. D.
Journ. Acad. Nat. Sci., iii, 1858, p. 314.

Unio Nuttallianus, Lea, n. s 103
India, Prof. Thomas Nuttall.
Journ. Acad. Nat. Sci., iii, 1858, p. 310.

1856. LEA, ISAAC—Continued.

Unio Cambodiensis, Lea, n. s 103
Takrong River at Korat, Cambodia, S. R. House, M. D.
Journ. Acad. Nat. Sci., iii, 1858, p. 313.

Unio Newcombianus, Lea, n. s 103
Lake Nicaragua, W. Newcomb, M. D.
Journ. Acad. Nat. Sci., iii, 1858, p. 312.

113.

1856. LEA, ISAAC. Description of Thirteen New Species of Exotic Peristomata. <*Proc. Acad. Nat. Sci., Phila.*, viii, pp. 109–111. No. 3, May and June, 1856.

Read before the Academy June 3, 1856. (See *Proc. Amer. Philos. Soc.*, vi, p. 207.) This forms part of No. 126.

Paludina Hainesiana, Lea, n. s 109
Siam, S. R. House, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 115.

Paludina umbilicata, Lea, n. s 109
Takrong River, Siam, W. A. Haines.
Journ. Acad. Nat. Sci., vi, 1866, p. 117.

Paludina Chinensis, Lea, n. s 110
China, W. A. Haines.
Journ. Acad. Nat. Sci., vi, 1866, p. 115, as *Paludina orientalis.*

Paludina Swainsoniana, Lea, n. s 110
Siam, T. R. Ingalls, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 116.

Paludina Ingallsiana, Lea, n. s 110
Siam, T. R. Ingalls, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 117.

Bithinia Siamensis, Lea, n. s 110
Takrong River, Siam, S. R. House, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 118.

Bithinia globula, Lea, n. s 110
India, W. A. Haines.
Journ. Acad. Nat. Sci., vi, 1866, p. 119.

Paludomus maculata, Lea, n. s 110
Ahmednugger, India, S. Shurtleff, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 118, as *Rivulina maculata.*

Ampullaria aurostoma, Lea, n. s 110
Carthagena, Col. Totten, J. C. Troutwine, Esq.
Journ. Acad. Nat. Sci., vi, 1866, p. 114.

Ampullaria tubæformis, Lea, n. s 110
Hab. ——? M. Burrough, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 114.

Ampullaria gracilis, Lea, n. s 110
Siam, S. R. House, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 113.

Ampullaria turbinis, Lea, n. s 110
Siam, S. R. House, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 113.

Assiminea carinata, Lea, n. s 111
Siam, S. R. House, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 119.

114.

1856. LEA, ISAAC. Description of Fifteen new species of Exotic Melaniana. <*Proc. Acad. Nat. Sci., Phila.*, viii, pp. 144–145. No. 4, July and August, 1856.

Read before the Academy of Natural Sciences July 8, 1856. (See *Proc. Amer. Philos. Soc.*, vi, p. 212.) This forms part of No. 126.

Melania Verreauiana, Lea, n. s 144
Sandwich Islands, M. E. Verrean, Paris.
Journ. Acad. Nat. Sci., vi, 1866, p. 127, as *M. Verreauxiana.*

1856. LEA, ISAAC—Continued.

Melania fraterna, Lea, n. s 144
Hab. ——.
Journ. Acad. Nat. Sci., vi, 1866, p. 128.

Melania Hainesiana, Lea, n. s 144
India, W. A. Haines, New York.
Journ. Acad. Nat. Sci., vi, 1866, p. 122.

Melania Housei, Lea, n. s 144
Korat, Takrong River, Siam, S. R. House, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 125.

Melania Ningpoensis, Lea, n. s 144
Ningpo, China, S. R. House, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 124.

Melania Myersiana, Lea, n. s 145
Feejee Islands, S. R. House, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 124.

Melania bullata, Lea, n. s 145
Brazil, W. A. Haines.
Journ. Acad. Nat. Sci., vi, 1866, p. 129.

Melania lyræformis, Lea, n. s 145
Manila, W. Newcomb, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 126.

Melania affinis, Lea, n. s 145
Manila, W. Newcomb, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 125.

Melania australis, Lea, n. s 145
Manila, W. Newcomb, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 126, as ***Melania Manillaensis.***

Melania Newcombii, Lea, n. s 145
Oahu, Sandwich Islands, W. Newcomb, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 122.

Melania Mauiensis, Lea, n. s 145
Maui, Sandwich Islands, W. Newcomb, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 123.

Melania Boninensis, Lea, n. s 145
Bonin Islands. M. Burrough, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 121.

Melania rubida, Lea, n. s 145
Mexico, Hon. J. R. Poinset.
Journ. Acad. Nat. Sci., vi, 1866, p. 121.

Pachychilus parvum, Lea, n. s 145
Siam, S. R. House, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 120.

115.

1856. LEA, ISAAC. Description of the Byssus in the genus Unio. <*Proc. Acad. Nat. Sci., Phila.*, viii, pp. 213–214. No. 5, September and October, 1856.

Read before the Academy of Natural Sciences September 23, 1856. (See *Proc. Amer. Philos. Soc.*, vi, p. 229.) This forms part of No. 126.

116.

1856. LEA, ISAAC. Description of eleven New Species of Uniones, from Georgia. <*Proc. Acad. Nat. Sci., Phila.*, viii, pp. 262–263. No. 6, November and December, 1856.

Read before the Academy of Natural Sciences November 4, 1856. This forms part of No. 126.

Unio Elliottii, Lea, n. s 262
Othcalooga Creek, Gordon Co., Georgia, Bishop Elliott.
Journ. Acad. Nat. Sci., iv, 1858, p. 54.

Unio gracilior, Lea, n. s 262
Buckhead Creek, Burke Co., Georgia, Bishop Elliott.
Journ. Acad. Nat. Sci., iv, 1858, p. 56, as *U. gracillior.*

Unio pullatis, Lea, n. s 262
Creeks near Columbus, Georgia, Bishop Elliott.
Journ. Acad. Nat. Sci., iv, 1858, p. 57, as *U. pullatus.*

1856. LEA, ISAAC—Continued.

Unio favosus, Lea, n. s 262
Othcalooga Creek, Gordon Co., Georgia, Bishop Elliott.
Journ. Acad. Nat. Sci., iv, 1858, p. 58.

Unio rutilans, Lea, n. s 262
Othcalooga Creek, Gordon Co., Georgia, Bishop Elliott.
Journ. Acad. Nat. Sci., iv, 1858, p. 59.

Unio errans, Lea, n. s 262
Tobesaufkie Creek, near Macon, Georgia, Bishop Elliott.
Journ. Acad. Nat. Sci., iv, 1858, p. 60.

Unio vicinus, Lea, n. s 262
Swift Creek, near Macon, Georgia, Bishop Elliott.
Journ. Acad. Nat. Sci., iv, 1858, p. 61.

Unio subellipsis, Lea, n. s 262
Creeks near Columbus, Georgia, Bishop Elliott.
Journ. Acad. Nat. Sci., iv, 1860, p. 62.

Unio geminus, Lea, n. s 262
Buckhead Creek, Burke Co., Georgia, Bishop Elliott.
Journ. Acad. Nat. Sci., iv, 1860, p. 63.

Unio rostræformis, Lea, n. s 262
Swift Creek, near Macon, Georgia, Bishop Elliott.
Journ. Acad. Nat. Sci., iv, 1860, p. 64, as *U. rostriformis*.

Unio Blandianus, Lea, n. s 263
Othcalooga Creek, Gordon Co., Georgia, Bishop Elliott.
Proc. Acad. Nat. Sci., ix, 1857, p. 31, and *Journ. Acad. Nat. Sci.*, iv, 1860, p. 65.

117.

1856. LEA, ISAAC. [Communication on *Triquetra lanceolata*, Lea, with change of name to *Triquetra contorta*.] <*Proc. Acad. Nat. Sci., Phila.*, viii, pp. 300–301. No. 6, November and December, 1856.

Remarks made before the Academy of Natural Sciences, December 16, 1856. This forms part of No. 126.

118.

1857. LEA, ISAAC. [Remarks on the visual organs of certain species of the genus Unio.] <*Proc. Acad. Nat. Sci., Phila.*, ix, pp. 17–18. February, 1857.

Remarks made before the Academy of Natural Sciences, February 3, 1857. (See *Proc. Acad. Nat. Sci., Phila.*, ix, p. v.) This forms part of No. 126.

119.

1857. LEA, ISAAC. Description of Thirteen New Species of Uniones, from Georgia. <*Proc. Acad. Nat. Sci., Phila.*, ix, pp. 31–32. February, 1857.

Read before the Academy of Natural Sciences, February 17, 1857. (See *Proc. Acad. Nat. Sci., Phila.*, ix, p. v.) This forms part of No. 126.

Unio Blandianus, Lea, n. s 31
Othcalooga Creek, Gordon Co., Georgia, Bishop Elliott.
Proc. Acad. Nat. Sci., viii, 1856, p. 263, and *Journ. Acad. Nat. Sci.*, iv, 1858, p. 65.

Unio concestator, Lea, n. s 31
Creeks near Columbus, Georgia, Bishop Elliott.
Journ. Acad. Nat. Sci., iv, 1858, p. 66.

Unio extensus, Lea, n. s 31
Dry Creek near Columbus, Georgia, Bishop Elliott.
Journ. Acad. Nat. Sci., iv, 1858, p. 67.

Unio pyriformis, Lea, n. s 31
Near Columbus, Georgia, Bishop Elliott.
Journ. Acad. Nat. Sci., iv, 1858, p. 69.

Unio Columbensis, Lea, n. s 31
Creek near Columbus, Georgia, Bishop Elliott.
Journ. Acad. Nat. Sci., iv, 1858, p. 75.

Unio fallax, Lea, n. s 32
Streams near Columbus, Georgia, Bishop Elliott; and French Broad River, Tenn., Mr. Joseph Clark.
Journ. Acad. Nat. Sci., iv, 1858, p. 79.

1857. LEA, ISAAC—Continued.

Unio intercedens, Lea, n. s 32
Streams near Columbus, Georgia, Bishop Elliott.
Journ. Acad. Nat. Sci., iv, 1858, p. 77.

Unio excavatus, Lea, n. s 32
Othcalooga Creek, Gordon Co., Georgia, Bishop Elliott; and Etowah, Georgia, Rev. Geo. White; Alabama River, Claiborne, Alabama, Judge Tait.
Journ. Acad. Nat. Sci., iv, 1858, p. 71.

Unio radians, Lea, n. s 32
Othcalooga Creek, Gordon Co., Georgia, Bishop Elliott.
Journ. Acad. Nat. Sci., iv, 1859, p. 201.

Unio rubellinus, Lea, n. s 32
Othcalooga Creek, Gordon Co., Georgia, Bishop Elliott.
Journ. Acad. Nat. Sci., iv, 1858, p. 70.

Unio umbrosus, Lea, n. s 32
Othcalooga Creek, Gordon Co., Georgia, Bishop Elliott.
Journ. Acad. Nat. Sci., iv, 1858, p. 72, as *U. umbrans*.

Unio apicinus, Lea, n. s 32
Othcalooga Creek, Gordon Co., Georgia, Bishop Elliott.
Journ. Acad. Nat. Sci., iv, 1858, p. 76.

Unio Othcaloogensis, Lea, n. s 32
Othcalooga Creek, Gordon Co., Georgia, Bishop Elliott.
Journ. Acad. Nat. Sci., iv, 1858, p. 74.

120.

1857. LEA, ISAAC. Description of Six New Species of Uniones from Alabama. <*Proc. Acad. Nat. Sci., Phila.*, ix, p. 83. March, 1857.

Read before the Academy of Natural Sciences, March 24, 1857. (See *Proc. Acad. Nat. Sci., Phila.*, ix, p. vi.) This forms part of No. 126.

Unio propinquus, Lea, n. s 83
Florence, Alabama, Rev. G. White, and Tuscumbia, Alabama, L. B. Thornton, Esq.
Journ. Acad. Nat. Sci., v, 1862, p. 63.

Unio Florentinus, Lea, n. s 83
Florence, Alabama, Rev. G. White; Cumberland River, Tennessee, Drs. Troost and Edgar, and T. C. Downie, Esq., St. Simon's Island.
Journ. Acad. Nat. Sci., v, 1862, p. 64.

Unio biemarginatus, Lea, n. s 83
Florence, Alabama, Rev. G. White.
Journ. Acad. Nat. Sci., vi, 1866, p. 47.

Unio mundus, Lea, n. s 83
Tuscumbia, Alabama, L. B. Thornton, Esq.
Journ. Acad. Nat. Sci., vi, 1866, p. 40.

Unio Thorntonii, Lea, n. s 83
Tuscumbia, Alabama, L. B. Thornton, Esq.
Journ. Acad. Nat. Sci., vi, 1866, p. 38.

Unio Mooresianus, Lea, n. s 83
Tuscumbia, Alabama, H. Moores.
Journ. Acad. Nat. Sci., vi, 1866, p. 39.

121.

1857. LEA, ISAAC. Description of Eight New Species of Naïades from various parts of the United States. <*Proc. Acad. Nat. Sci., Phila.*, ix, p. 84. March, 1857.

Read before the Academy of Natural Sciences, March 24, 1857. (See *Proc. Acad. Nat. Sci.*, ix, p. vi.) This forms part of No. 126.

Unio pinguis, Lea, n. s 84
St. Peter's River, Upper Mississippi, B. W. Budd, M. D.
Journ. Acad. Nat. Sci., iv, 1858, p. 78.

Unio Higginsii, Lea, n. s 84
Muscatine, Iowa, Frank Higgins.
Journ. Acad. Nat. Sci., v, 1862, p. 188.

Unio Abbevillensis, Lea, n. s 84
Abbeville District, South Carolina, Dr. Barratt.
Journ. Acad. Nat. Sci., iv, 1858, p. 51.

1857. LEA, ISAAC—Continued.

Unio Jamesianus, Lea, n. s 84
Jackson, Mississippi, U. P. James.
Journ. Acad. Nat. Sci., iv, 1858, p. 52.

Unio Texasiensis, Lea, n. s 84
De Witt County, Texas, W. Newcomb, M. D.
Journ. Acad. Nat. Sci., iv, 1860, p. 359, as *U. Texasensis.*

Anodonta Lewisii, Lea, n. s 84
Erie Canal and Mohawk River, Herkimer Co., N. Y., James Lewis, M. D.; and Genesee River, below Rochester, Prof. C. Dewey.
Journ. Acad. Nat. Sci., iv, 1860, p. 362.

Anodonta lacustris, Lea, n. s 84
Crooked Lake and Little Lakes, New York, James Lewis, M. D.
Journ. Acad. Nat. Sci., iv, 1860, p. 363.

Anodonta modesta, Lea, n. s 84
Pond, near Kalamazoo, Mich., J. Lewis, M. D.
Journ. Acad. Nat. Sci., iv, 1860, p. 364.

122.

1857. LEA, ISAAC. Description of Three New Exotic species of Naïades. <*Proc. Acad. Nat. Sci., Phila.*, ix, p. 85. March, 1857.

Read before the Academy Natural Sciences, Phila., March 24, 1857. (See *Proc. Acad. Nat. Sci., Phila.*, ix, p. vi.) This forms part of No. 126.

Unio Poeyanus, Lea, n. s 85
Rio de las Balsas, near Coyucan, Mexico, Prof. Poey, of Havana.
Journ. Acad. Nat. Sci., iii, 1858, p. 315.

Unio Canadensis, Lea, n. s 85
St. Lawrence River, near Montreal, M. Carey Lea.
Journ. Acad. Nat. Sci., iv, 1860, p. 268.

Anodonta Holtonis, Lea, n. s 85
Near Cauca River, Province of Popayan, S. A., Rev. J. F. Holton.
Journ. Acad. Nat. Sci., iii, 1858, p. 316.

123.

1857. LEA, ISAAC. Description of Twelve New Species of Naïades from North Carolina. <*Proc. Acad. Nat. Sci., Phila.*, ix, pp. 85–86. March, 1857.

Read before the Academy of Natural Sciences March 10, 1857. (See *Proc. Acad. Nat. Sci., Phila.*, ix, p. vi.) This forms part of No. 126.

Unio Wheatleyi, Lea, n. s 85
Catawba River, Gaston Co., N. C., C. M. Wheatley.
Journ. Acad. Nat. Sci., v, 1862, p. 54, as *Unio Catawbensis.*

Unio percoarctatus, Lea, n. s 85
Catawba River, Gaston Co., N. C., C. M. Wheatley and F. A. Genth, M. D.
Journ. Acad. Nat. Sci., v, 1862, p. 59.

Unio gracilentus, Lea, n. s 85
Catawba River, Gaston Co., N. C., C. M. Wheatley.
Journ. Acad. Nat. Sci., v, 1862, p. 58.

Unio micans, Lea, n. s 85
Catawba River, Gaston Co., N. C., C. M. Wheatley and F. A. Genth, M. D.; Deep River Gulf, N. C., Prof. Emmons.
Journ. Acad. Nat. Sci., v, 1862, p. 59.

Unio Genthii, Lea, n. s 85
Catawba River, Gaston Co., N. C., C. M. Wheatley and F. A. Genth, M. D.; Deep River Gulf, N. C., Prof. Emmons.
Journ. Acad. Nat. Sci., v, 1862, p. 57.

Unio Emmonsii, Lea, n. s 86
Roanoke River, at Weldon, N. C., Prof. E. Emmons.
Journ. Acad. Nat. Sci., v, 1862, p. 56.

Unio spadiceus, Lea, n. s 86
Deep River Gulf, N. C., Prof. Emmons; and mountain streams, N. C., Joseph Clark.
Journ. Acad. Nat. Sci., v, 1862, p. 55.

Unio insulsus, Lea, n. s 86
Roanoke River, Weldon, N. C., Prof. Emmons.
Journ. Acad. Nat. Sci., v, 1862, p. 53.

1857. LEA, ISAAC—Continued.

Unio striatulus, Lea, n. s 86
Roanoke River, at Weldon, N. C. Prof. Emmons.
Journ. Acad. Nat. Sci., v, 1862, p. 55.

Unio macer, Lea, n. s 86
Roanoke River, Weldon, N. C., Prof. Emmons.
Journ. Acad. Nat. Sci., v, 1862, p. 202.

Unio contractus, Lea, n. s 86
Roanoke River, Weldon, N. C., Prof. Emmons.
Journ. Acad. Nat. Sci., v, 1862, p. 203.

Anodonta virgulata, Lea, n. s 86
Roanoke River, Weldon, N. C., Prof. Emmons; and Washington, Co., Georgia, Rev. G. White.
Journ. Acad. Nat. Sci., v, 1862, p. 213.

124.

1857. LEA, ISAAC. [Remarks on Unio spinosus.] <*Proc. Acad. Nat. Sci., Phila.*, ix, p. 101. April, 1857.
Verbal communication made to the Academy April 14, 1857.

125.

1857. LEA, ISAAC. Description of Six new species of Fresh Water and Land Shells of Texas and Tamaulipas, from the Collection of the Smithsonian Institution. <*Proc. Acad. Nat. Sci., Phila.*, ix, pp. 101–102. April, 1857.
Read before the Academy of Natural Sciences April 7, 1857. This forms part of No. 126.

Unio Berlandierii, Lea, n. s 101
Matamoras, Tamaulipas, Mexico, Luis Berlandier, M. D.
Journ. Acad. Nat. Sci., iv, 1860, p 369.

Unio Popeii, Lea, n. s 102
Devil's River and Rio Salado, Texas, Capt. Pope, U. S. A.
Journ Acad. Nat. Sci., iv, 1860, p. 372.

Unio Bairdianus, Lea, n. s 102
Devil's River, Texas, Capt. Pope, U. S. A.
Journ. Acad. Nat. Sci., iv, 1860, p. 361.

Anodonta Henryiana, Lea, n. s 102
Matamoras, Tamaulipas, Mexico, L. Berlandier, M. D.
Journ. Acad. Nat. Sci., iv, 1860, p. 373, as *A. Henryana.*

Helix (Polygyra) Couchiana, Lea, n. s 102
Texas, L. Berlandier, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 183.

Helix (Polygyra) Tamaulipasensis, Lea, n. s 102
Texas, L Berlandier, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 183.

126.

1857. LEA, ISAAC. Descriptions o four New Species of Exotic Uniones. | Descriptions of thirteen New Species of exotic Peristomata. | — | Descriptions of fifteen New Species of exotic Melaniana. | — | Description of the Byssus of the Genus Unio. | — | Descriptions of eleven New Species of exotic Uniones, | from Georgia. | — | Remarks on Triquetra Contorta. | — | Remarks on the Visual Organs of the Naiades. | — | Descriptions of thirteen New Species of Uniones, | from Georgia. |—| Descriptions of twelve New Species of Uniones, | from North Carolina. | — | Descriptions of six New Species of Uniones, | from Alabama. | Descriptions of eight New Species of Naiades, | from various parts of the United States. |— Descriptions of three New Species of Naiades, | — | by | Isaac Lea, LL. D. &c. &c. | — | Philadelphia: | Merrihew & Thompson, Printers. | Lodge St., north side of Pennsylvania Bank. | 1857. 8°. pp. 1–24.
Extracts from the Proceedings Academy Natural Sciences, Phila., and consists of numbers 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 125.

127.

1857. LEA, ISAAC. [Proposed change of the names of *Unio umbrosus* and *Unio Wheatleyi* to *U. umbrans* and *U. Catawbensis*, respectively.] <*Proc. Acad. Nat. Sci., Phila.*, ix, p. 104. May, 1857.

Verbal communication made May 5, 1857.

128.

1857. LEA, ISAAC. [Remarks on two specimens from the dark slates of the Red Sandstone of Phœnixville, Pa.] <*Proc. Acad. Nat. Sci., Phila.*, ix, p. 149. June, 1857.

Communication made June 2, 1857.

129.

1857. LEA, ISAAC. Descriptions of Twenty-Seven New Species of Uniones from Georgia. <*Proc. Acad. Nat. Sci., Phila.*, ix, pp. 169–172, June, 1857.

Read before the Academy of Natural Sciences June 23, 1857. This forms part of No. 146.

Unio subgibbosus, Lea, n. s 169

Oostenaula River, Floyd County, and Etowah River, Georgia, Rev. G. White.

Journ. Acad. Nat. Sci., iv, 1858, p. 53.

Unio Savannahensis, Lea, n. s 169

Savannah River, also Brantley's Mill, Washington County, Georgia, Rev. G. White; Sugar Creek, Mecklenburg County, N. C., C. M. Wheatley.

Journ. Acad. Nat. Sci., iv, 1858, p. 81.

Unio virens, Lea, n. s 169

Georgia, Rev. G. White.

Journ. Acad. Nat. Sci., iv, 1858, p. 80.

Unio sublatus, Lea, n. s 169

Uchee Bar, below Columbus, Georgia, Bishop Elliott.

Journ. Acad. Nat. Sci., iv, 1858, p. 82..

Unio obnubilus, Lea, n. s 169

Buckhead Creek, Burke County, Georgia, Bishop Elliott.

Journ. Acad. Nat. Sci., iv, 1858, p. 84.

Unio opacus, Lea, n. s 169

Buckhead Creek, Burke County, Georgia, Bishop Elliott.

Journ. Acad. Nat. Sci., iv, 1858, p. 86.

Unio similis, Lea, n. s 169

Buckhead Creek, Burke County, Georgia, Bishop Elliott.

Journ. Acad. Nat. Sci., iv, 1858, p. 91.

Unio æquatus, Lea, n. s 170

Buckhead Creek, Burke County, Georgia, Bishop Elliott.

Journ. Acad. Nat. Sci., iv, 1858, p. 89.

Unio naviculoides, Lea, n. s 170

Buckhead Creek, Burke County, Georgia, Bishop Elliott; Macon, I. C. Plant.

Journ. Acad. Nat. Sci., iv, 1858, p. 94.

Unio viridicatus, Lea, n. s 170

Buckhead Creek, Burke County, Georgia, Bishop Elliott.

Journ. Acad. Nat. Sci., iv, 1858, p. 87.

Unio subflavus, Lea, n. s 170

Walnut Creek, above Macon, Georgia, Bishop Elliott and I. C. Plant.

Journ. Acad. Nat. Sci., iv, 1858, p. 90.

Unio sudus, Lea, n. s 170

Dry Creek, near Columbus, Georgia, Bishop Elliott; Macon, I. C. Plant.

Journ. Acad. Nat. Sci., iv, 1858, p. 194.

Unio tetricus, Lea, n. s 170

Flint River, near Albany, Georgia, Bishop Elliott.

Journ. Acad. Nat. Sci., iv, 1859, p. 195.

Unio Woodwardius, Lea, n. s 170

Etowah and Connasauga Rivers, Cass County, Georgia, Bishop Elliott and Rev. G. White.

Journ. Acad. Nat. Sci., iv, 1859, p. 199, as *U. Woodwardianus*.

Unio tenebricus, Lea, n. s 171

Etowah River, Georgia, Bishop Elliott and Rev. G. White.

Journ. Acad. Nat. Sci., iv, 1858, p. 83.

1857. LEA, ISAAC—Continued.

Unio rufus, Lea, n. s 171
Etowah River, Cass County, Georgia, Bishop Elliott.
Journ. Acad. Nat. Sci., iv, 1858, p. 85.

Unio modicus, Lea, n. s 171
Chattahoochee River, near Columbus, Georgia, Bishop Elliott.
Journ. Acad. Nat. Sci., iv, 1859, p. 204.

Unio denigratus, Lea, n. s 171
Streams near Columbus, Georgia, Bishop Elliott.
Journ. Acad. Nat. Sci., iv, 1859, p. 200.

Unio fumatus, Lea, n. s 171
Chattahoochee River, near Columbus, Georgia, Bishop Elliott; Haspaliga Creek, Alabama, Dr. Neisler.
Journ. Acad. Nat. Sci., iv, 1858, p. 88.

Unio purpurellus, Lea, n. s 171
Flint River, near Albany, Georgia, Bishop Elliott.
Journ. Acad. Nat. Sci., iv. 1859, p. 198.

Unio penicillatus, Lea, n. s 171
Chattahoochee, near Columbus, Georgia, Dr. Boykin; near Atlanta, Bishop Elliott; Flint River, near Albany, Georgia, Bishop Elliott and Rev. G. White.
Journ. Acad. Nat. Sci., iv, 1859, p. 203.

Unio Plantii, Lea, n. s 171
Flint River, near Macon, Georgia, I. C. Plant.
Journ. Acad. Nat. Sci., iv, 1859, p. 192.

Unio subniger, Lea, n. s 172
Flint River, near Macon, Georgia, I. C. Plant.
Journ. Acad. Nat. Sci., iv, 1859, p. 196.

Unio bulbosus, Lea, n. s 172
Flint River, near Macon, Georgia, I. C. Plant and H. M. Neisler, M. D.
Journ. Acad. Nat. Sci., iv, 1859, p. 191.

Unio Maconensis, Lea, n. s 172
Flint River, near Macon, Georgia, I. C. Plant.
Journ. Acad. Nat. Sci., iv, 1858, p. 93.

Unio obfuscus, Lea, n. s 172
Flint River, near Macon, Georgia, I. C. Plant.
Journ. Acad. Nat. Sci., iv, 1859, p. 197.

Unio aquilus, Lea, n. s 172
Flint River, near Macon, Georgia, I. C. Plant.
Journ. Acad. Nat. Sci., iv, 1858, p. 92.

130.

1857. LEA, ISAAC. [Observations on the geology of the Red Sandstone formation near Gwynned.] <*Proc. Acad. Nat. Sci., Phila.*, ix, p. 173. July, 1857.
Remarks made before the Academy July 7, 1857.

131.

1857. LEA, ISAAC. [Remarks on plates of fresh water Naïades from Siam.] <*Proc. Acad. Nat. Sci., Phila.*, ix, p. 205.
Remarks made December 15, 1857.

132.

1857. LEA, ISAAC. [Remarks on Trilobites found at Braintree, Mass.] <*Proc. Acad. Nat. Sci., Phila.*, ix, p. 205. December, 1857.
Remarks made December 22, 1857.

133.

1857. LEA, ISAAC. Descriptions of Exotic Genera and species of the family Unionidæ. <*Journ. Acad. Nat. Sci., Phila.*, iii. New Series, pp. 289–321.
Read before the Academy Natural Sciences, Phila., December 1, 1857. Extra copies printed for the author January, 1858. (See *Jour. Acad. Nat. Sci., Phila.*, iii, p. 4.)
For separate see No. 134.

Unio Haincsianus, Lea, pl. 21, fig. 1 289
Proc. Acad. Nat. Sci., viii, 1856, p. 92.

1857. LEA, ISAAC—Continued.

Unio Mycrsianus, Lea, pl. 22, fig. 2 290
Proc. Acad. Nat. Sci., viii, 1856, p. 92.
Unio Housei, Lea, pl. 23, fig. 3 291
Proc. Acad. Nat. Sci., viii, 1856, p. 92.
Unio lutcus, Lea, pl. 24 fig. 4 291
Proc. Acad. Nat. Sci., viii, 1856, p. 93, as *Unio lutens.*
Unio gravidus, Lea, pl. 24, fig, 5 292
Proc. Acad. Nat. Sci., viii, 1856, p. 93.
Unio inornatus, Lea, pl. 24, fig. 6 293
Proc. Acad. Nat. Sci., viii, 1856, p. 93.
Unio rusticus, Lea, pl. 25, fig. 7 294
Proc. Acad. Nat. Sci., viii, 1856, p. 93.
Unio eximius, Lea, pl. 25, fig. 8 294
Proc. Acad. Nat. Sci., viii, 1856, p. 93.
Unio tumidulus, Lea, pl. 25, fig. 9 295
Proc. Acad. Nat. Sci., viii, 1856, p. 93.
Unio humilis, Lea, pl. 26, fig. 10 296
Proc. Acad. Nat. Sci., viii, 1856, p. 93.
Unio phaselus, Lea, pl. 26, fig. 11 297
Proc. Acad. Nat. Sci., viii, 1856, p. 94.
Unio sagittarius, Lea, pl. 26, fig. 12 298
Proc. Acad. Nat. Sci., viii, 1856, p. 93.
Unio scobinatus, Lea, pl. 26, fig. 13 299
Proc. Acad. Nat. Sci., viii, 1856, p. 93.
Unio subtriatus, Lea, pl. 26, fig. 14 300
Proc. Acad. Nat. Sci., viii, 1856, p. 93, as *Unio substriatus.*
Unio Africanus, Lea, pl. 27, fig. 15 300
Proc. Acad. Nat. Sci., viii, 1856, p. 94.
Unio Verreauianus Lea, pl. 27, fig, 16 301
Proc. Acad. Nat. Sci., viii, 1856, p. 94.
Unio Shurtleffianus, Lea, pl. 27, fig. 17 302
Proc. Acad. Nat. Sci., viii, 1856, p. 94.
Unio effulgens, Lea, pl. 28, fig. 18 303
Proc. Acad. Nat. Sci., viii, 1856, p. 94.
Unio Shuttleworthii, Lea, pl. 28, fig. 19 304
Proc. Acad. Nat. Sci., viii, 1856, p. 94.
Unio Dunkerianus, Lea, pl. 28, fig. 20 305
Proc. Acad. Nat. Sci., viii, 1856, p. 94.
Unio nucleus, Lea, pl. 28, fig. 21 306
Proc. Acad. Nat. Sci., viii, 1856, p. 94.
Unio Brownii, Lea, pl. 29, fig. 22 307
Proc. Acad. Nat. Sci., viii, 1856, p. 95.
Unio Whcatleyanus, Lea, pl. 29, fig. 23 308
Proc. Acad. Nat. Sci., viii, 1856, p. 94.
Unio suavidicus, Lea, pl. 29, fig. 24 309
Proc. Acad. Nat. Sci., viii, 1856, p. 95.
Unio Nuttallianus, Lea, pl. 30, fig. 25 310
Proc. Acad. Nat. Sci., viii 1856, p. 103.
Unio umbrosus, Lea, pl. 30, fig. 26 311
Proc. Acad. Nat. Sci., viii, 1856, p. 95.
Unio Newcombianus, Lea, pl. 30, fig. 27 312
Proc. Acad. Nat. Sci., viii, 1856, p. 103.
Unio Cambodiensis, Lea, pl. 30, fig. 28 313
Proc Acad. Nat. Sci., viii, 1856, p. 103.
Unio Coloradoensis, Lea, pl. 31, fig. 29. 314
Proc. Acad. Nat. Sci., viii, 1856, p. 103.
Unio Pocyanus, Lea, pl. 32, fig. 30 315
Proc. Acad. Nat. Sci., ix, 1857, p. 85.
Anodonta Holtonsis, Lea, pl. 32, fig. 31 316
Proc. Acad. Nat. Sci., ix, 1857, p. 85.
Subgenus PLAGIODON, Lea 317
Proc. Acad. Nat. Sci., viii, 1856, p. 79.
Plagiodon isocardioides, Lea, pl. 32, fig. 32 318
Proc. Acad. Nat. Sci., viii, 1856, p. 79, *P. isocardiodes.*
Triquetra contorta, Lea, pl. 33, fig. 33 319
Proc. Acad. Nat. Sci., viii, 1856, p. 79, as *Triquetra lanceolata*, Lea.

134.

1857. LEA, ISAAC. Observations | on the | Genus Unio, | together with | Descriptions of New Species in the Family Unionidæ. | Read before the Academy of Natural Sciences of Philadelphia and | published in their Journal. | by | Isaac Lea, LL. D. | [title], | with thirteen plates. | Vol. vi. | Part I.—1857. | Philadelphia: | Printed for the author. | Merrihew & Thompson Printers. 4to. pp. 7–48.

This consists of a separate of No. 133, and, with No. —, forms No. 150.

135.

1858. LEA, ISAAC. "Remarks on the Unionidæ of Nebraska Territory and Red River of the North." <*Proc. Acad. Nat. Sci., Phila.*, x, pp. 13–14. March, 1858.

Communicated March 23, 1858. This forms part of No. 146.

136.

1858. LEA, ISAAC. Descriptions of New Species of Unio, from Tennessee, Alabama, and North Carolina. <*Proc. Acad. Nat. Sci., Phila.*, x, pp. 40–41. March, 1858.

Read before the Academy March 23, 1858. This forms part of No. 146.

Unio turgidulus, Lea, n. s 40
Cumberland River, Tennessee, Dr. Troost and T. C. Downie; Florence, Alabama, Rev. G. White.
Journ. Acad. Nat. Sci., v, 1862, p. 62.

Unio perradiatus, Lea, n. s 40
Florence, Alabama, Rev. George White.
Journ. Acad. Nat. Sci., v, 1862, p. 66.

Unio Meredithii, Lea, n. s 40
Tennessee River, Florence, Alabama, L. B. Thornton.
Journ. Acad. Nat. Sci., v, 1862, p. 65.

Unio Pybasii, Lea, n. s 40
Tennessee River at Florence, Alabama, B. Pybas.
Journ. Acad. Nat. Sci., v, 1862, p. 67.

Unio virescens, Lea, n. s 40
Tennessee River at Florence, Alabama, B. Pybas.
Journ. Acad. Nat. Sci., iv, 1860, p. 341.

Unio Neusensis, Lea, n. s 41
Neuse River, six miles from Raleigh, N. C., Prof. Emmons.
Journ. Acad. Nat. Sci., v, 1862, p. 60.

Unio purus, Lea, n. s 41
Neuse River, six miles from Raleigh, N. C., Prof. Emmons.
Journ. Acad. Nat. Sci., v, 1862, p. 61.

Unio exactus, Lea, n. s 41
Neuse River, six miles from Raleigh, N. C., Prof. Emmons.
Journ. Acad. Nat. Sci., v, 1862, p. 62.

137.

1858. LEA, ISAAC. Descriptions of a New Helix and Two New Planorbes. <*Proc. Acad. Nat. Sci., Phila.*, x, p. 41. March, 1858.

Read before the Academy of Natural Sciences March 23, 1858. This forms part of No. 146.

Helix Clarkii, Lea, n. s 41
Tuskee Cove, Cherokee County, North Carolina, Prof. D. Christy, Hamilton, Ohio.

Planorbis Wheatleyi, Lea, n. s 41
Cotoma Creek, Montgomery County, Alab., C. M. Wheatley.

Planorbis Newberryi, Lea, n. s 41
Klamath Lake and Canoe Creek, California, J. S. Newberry, M. D.

138.

1858. LEA, ISAAC. [Remarks on Permian and Triassic Formations in Kansas and Pennsylvania.] <*Proc. Acad. Nat. Sci., Phila.*, x, pp. 90–92. April, 1858.

Communicated April 20, 1858. This forms part of No. 146.

139.

1858. LEA, ISAAC. [Remarks on some remarkable specimens of Unionidæ.] <*Proc. Acad. Nat. Sci., Phila.*, x, p. 114. May, 1858.

Remarks made before the Academy Natural Sciences May 18, 1858. This forms part of No. 146.

Margaritana complanata.

Unio multiplicatus.

140.

1858. LEA, ISAAC. Description of Four New Fresh-water Molluscs, from the Isthmus of Darien and Honduras. <*Proc. Acad. Nat. Sci., Phila.*, x, p. 118. May, 1858.

Read before the Academy of Natural Sciences May 18, 1858. This forms part of No. 146.

Unio Caldwellii, Lea, n. s. 118

Isthmus of Darien, H. C. Caldwell, M. D., U. S. Navy.

Journ. Acad. Nat. Sci., iv, 1860, p. 265.

Unio Goascorancnsis, Lea, n. s 118

River Goascoran, Honduras, Pacific Slope, J. L. Le Conte, M. D.

Journ. Acad. Nat. Sci., iv, 1860, p. 258.

Anodonta luteola, Lea, n. s 118

Isthmus of Darien, H. C. Caldwell, M. D., U. S. Navy.

Journ. Acad. Nat. Sci., iv, 1860, p. 267.

Melania Planensis, Lea, n. s 118

Plan and Omoa, Valley of Ulua River, Atlantic slope, Honduras, J. L. Le Conte, M. D.

Journ. Acad. Nat. Sci., vi, 1866, p. 127.

141.

1858. LEA, ISAAC. [Remarks on the reproduction of *Unio rubiginosus*, Lea.] <*Proc. Acad. Nat. Sci., Phila.*, x, p. 135. June, 1858.

Remarks made before the Academy Natural Sciences June 15, 1858. This forms part of No. 146.

142.

1858. LEA, ISAAC. Descriptions of seven new species of Margaritanæ, and four new species of Anodontæ. <*Proc. Acad. Nat. Sci., Phila.*, x, pp. 138–139. June, 1858.

Read before the Academy of Natural Sciences June 22, 1858. This forms part of No. 146.

Margaritana Elliottii, Lea, n. s. 138

Chattahoochee River, near Columbus, Georgia, Bishop Elliott.

Journ. Acad. Nat. Sci., iv, 1859, p. 226.

Margaritana triangulata, Lea, n. s 138

Upper Chattahoochee, Georgia, Bishop Elliott; Columbus, Georgia, Dr. Boykin and J. Postell; Potato Creek, Georgia, Rev. G. White; and Sawney's Creek, S. Carolina, Dr. Blanding.

Journ. Acad. Nat. Sci., iv, 1859, p. 228.

Margaritana Connasaugaensis, Lea, n. s 138

Connasauga River, one of the head waters of the Alabama River, in Gilmer Co., Georgia, Bishop Elliott.

Journ. Acad. Nat. Sci., iv, 1859, p. 229.

Margaritana Etowahensis, Lea, n. s 138

Tennessee, Dr. Troost; Etowah River, Georgia, Rev. G. White.

Journ. Acad. Nat. Sci., iv, 1859, p. 227.

Margaritana Gesnerii, Lea, n. s 138

Uphaupee Creek, Alabama, below Columbia, Georgia, W. Gesner and G. Hallenbeck.

Journ. Acad. Nat. Sci., v, 1862, p. 211.

Margaritana Tombecbeensis, Lea, n. s 138

Tombecbee River, near Columbus, Mississippi, Wm. Spillman, M. D.

Journ. Acad. Nat. Sci., v, 1862, p. 107, as *M. Tombigbeensis.*

Margaritana Spillmanii, Lea, n. s 138

Tombecbee River, near Columbus, Mississippi, Wm. Spillman, M. D.

Journ. Acad. Nat. Sci., v, 1862, p. 105.

1858. LEA, ISAAC—Continued.

Anodonta Hallenbeckii, Lea, n. s 138
Uphaupee Creek, Macon Co., Geo., W. Gesner.
Journ. Acad. Nat. Sci., iv, 1859, p. 232.

Anodonta Gesnerii, Lea, n. s 139
Uphaupee Creek, Macon Co., Alabama, W. Gesner, of Milledgeville, Georgia.
Journ. Acad. Nat. Sci., iv, 1859, p. 231.

Anodonta Dariensis, Lea, n. s 139
Hopeton, near Darien, Georgia, J. Hamilton Couper; and Swift Creek, near Macon, Georgia, Bishop Elliott and J. C. Plant.
Journ. Acad. Nat. Sci., iv, 1859, p. 230.

Anodonta Danielsii, Lea, n. s 139
Topeka, Kansas, Prof. Edward Daniels.
Journ. Acad. Nat. Sci., iv, 1860, p. 365.

143.

1858. LEA, ISAAC. Descriptions of Twelve New Species of Unionæ and other Fresh-water Shells of the United States. <*Proc. Acad. Nat. Sci., Phila.*, x, pp. 165–166. July, 1858.

Read before the Academy of Natural Sciences July 6, 1858.
This forms part of No. 146.

Unio Roswellensis, Lea, n. s 165
Chattahoochee River at Roswell, Cobb Co., Georgia, N. A. Pratt, Jr.
Journ. Acad. Nat. Sci, iv, 1859, p. 205.

Unio Postellii, Lea, n. s 165
Randall's Creek, near Columbus, Georgia, Bishop Elliott; and at Carter's Creek, Baldwin County Georgia, J. Postell.
Journ. Acad. Nat. Sci., iv, 1859, p. 214.

Unio Neislerii, Lea, n. s 165
Flint River, at Lanier, Georgia, Dr. H. M. Neisler.
Journ. Acad. Nat. Sci., iv, 1859, p. 212.

Unio Prattii, Lea, n. s 166
Chattahoochee River, at Roswell, Cobb Co., Georgia, N. A. Pratt, Jr.; and Tobesantke Creek, near Macon Georgia, Bishop Elliott.
Journ. Acad. Nat. Sci, iv, 1859, p. 206.

Unio Chattanoogaensis, Lea, n. s 166
Chattanooga, Tenn., T. Stewardson, M. D.; Etowah River, Rev. G. White; Coosawattee and Oostanaula Rivers, Georgia, Bishop Elliott.
Journ. Acad. Nat. Sci., iv, 1859, p. 209.

Unio Downiei, Lea, n. s 166
Buck Lake, an enlargement of Satilla River, Georgia, J. C. Downie and J. Postell
Journ. Acad. Nat. Sci., iv, 1859, p. 210.

Unio satillaensis, Lea, n. s 166
Satilla River, Camden Co., Georgia, T. C. Downie.
Journ. Acad. Nat. Sci., iv, 1859, p. 216.

Unio Hazlehurstianus, Lea, n. s 166
Satilla River, Camden Co., Georgia, T. C. Downie.
Journ. Acad. Nat. Sci, iv, 1859, p. 211.

Melania Postelii, Lea, n. s 166
Altamaha River, Georgia, James Postell.
Journ. Acad. Nat. Sci., iv, 1859, p. 214.

Paludina Elliottii, Lea, n. s 166
Othcalooga Creek, Georgia, Bishop Elliott.
Journ. Acad. Nat. Sci., vi, 1866, p. 184.

Lymnea Haydenii, Lea, n. s 166
Yellowstone and Big Sioux Rivers, Dr. Hayden.
Journ. Acad. Nat. Sci., vi, 1866, p. 159.

Ancylus Newberryi, Lea, n. s 166
Klamath Lake, Calif rnia. J. S. Newberry, M. D.
Journ. Acad. Nat. Sci, vi 1866, p. 185.

144.

1858. LEA, ISAAC. [Remarks on *Triquetra contorta.*] <*Proc. Acad. Nat. Sci., Phila.*, x, p. 179. October, 1858.

Communicated to the Academy Natural Sciences October 12, 1858.

145.

1858. LEA, ISAAC. [Remarks on fossils presented by Mr. Foulke to the Academy of Natural Sciences, Phila.] <*Proc. Acad. Nat. Sci., Phila.*, x, pp. 218–221.

Communicated December 14, 1858. Forms part of No. 146.

146.

1858. LEA, ISAAC. [Title-page not seen]. 8°, pp. 1–26.

Consists of Numbers 129, 135, 136, 137, 138, 139, 140, 141, 142, 143, 145.

147.

1858. LEA, ISAAC. Descriptions of the Embryonic Forms of Thirty-eight species of Unionidæ. <*Journ. Acad. Nat. Sci., Phila.*, iv. New Series, pp. 43–50, pl. v. Separate 4to, pp. 43–50.

Read before the Academy Natural Sciences November 23, 1858.

Extra copies printed for the author December, 1858. (See *Journ. Acad. Nat. Sci., Phila.*, iv, n. s., p. 3.)

This also forms part of No. 149.

Unio obtusus, Lea, pl. 5, fig. 1 .. 46
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Unio multiplicatus, Lea, fig. 3 .. 46
Unio rutilans, Lea, fig. 4 .. 46
Unio penicillatus, Lea, fig. 5 .. 47
Unio securis, Lea, fig. 6 .. 47
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Unio spatulatus, Lea, fig. 9 .. 47
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Unio rectus, Lam., fig. 11 .. 47
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Unio occidens, Lea, fig. 13 .. 47
Unio novi-eboraci, Lea, fig. 14 .. 47
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Anodonta edentula, Lea, fig. 37 .. 50
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148.

1858. LEA, ISAAC. New Unionidæ of the United States. <*Journ. Acad. Nat. Sci.*, iv. New Series, pp. 51–95. Plates vi to xx.

Read before the Academy Natural Sciences, Phila., November 23, 1858. Extra copies printed for the author December, 1858. (See *Journ. Acad. Nat. Sci., Phila.*, iv, n. s., p. 3.)

This forms part of No. 149.

1858. LEA, ISAAC—Continued.

Unio Abbevillensis, Lea, pl. 6, fig. 34 51
Proc. Acad. Nat. Sci., 1857, p. 84.
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Proc. Acad. Nat. Sci., 1857, p. 84.
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Proc. Acad. Nat. Sci., 1857, p. 169.
Unio Elliotti, Lea, pl. 7, fig. 37 54
Proc. Acad. Nat. Sci., 1856, p. 262.
Unio gracillior, Lea, pl. 8, fig. 38 56
Proc. Acad. Nat. Sci., 1856, p. 262, as *U. gracilior.*
Unio pullatus, Lea, pl. 8, fig. 39 57
Proc. Acad. Nat. Sci., 1856, p. 262, as *U. pullatis.*
Unio favosus, Lea, pl. 8, fig. 40 58
Proc. Acad. Nat. Sci., 1856, p. 262.
Unio rutilans, Lea, pl. 9, fig. 41 59
Proc. Acad. Nat. Sci., 1856, p. 262.
Unio errans, Lea, pl. 9, fig. 42 60
Proc. Acad. Nat. Sci., 1856, p. 262.
Unio vicinus, Lea, pl. 9, fig. 43 61
Proc. Acad. Nat. Sci., 1856, p. 262.
Unio subellipsis, Lea, pl. 10, fig. 44 62
Proc. Acad. Nat. Sci., 1856, p. 262.
Unio geminus, Lea, pl. 10, fig. 45 63
Proc. Acad. Nat. Sci., 1856, p. 262.
Unio rostriformis, Lea, pl. 10, fig. 46 64
Proc. Acad. Nat. Sci., 1856, p. 262, as *U. rostræformis.*
Unio Blandianus, Lea, pl. 11, fig. 47 65
Proc. Acad. Nat. Sci., 1856, p. 263, and *Proc. Acad. Nat. Sci.*, 1857, p. 31.
Unio concestator, Lea, pl. 12, fig. 48 66
Proc. Acad. Nat. Sci., 1857, p. 31.
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Proc. Acad. Nat. Sci., 1857, p. 31.
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Proc. Acad. Nat. Sci., 1857, p. 31.
Unio rubellinus, Lea, pl. 13, fig. 51 70
Proc. Acad. Nat. Sci., 1857, p. 32.
Unio excavatus, Lea, pl 13, fig. 52 71
Proc. Acad. Nat. Sci., 1857, p, 32.
Unio umbrans, Lea, pl. 13, fig. 53 72
Proc. Acad. Nat. Sci., 1857, p. 32, as *umbrosus.*
Unio Othcaloogensis, Lea, pl. 14, fig. 54 74
Proc. Acad. Nat. Sci., 1857, p. 32.
Unio Columbensis, Lea, pl. 14, fig. 55 75
Proc. Acad. Nat. Sci., 1857, p. 31.
Unio apicinus, Lea, pl. 14, fig. 56 76
Proc. Acad. Nat. Sci., 1857, p. 32.
Unio intercedens, Lea, pl. 15, fig. 57 77
Proc. Acad. Nat. Sci., 1857, p. 32.
Unio pinguis, Lea, pl. 15, fig. 58 78
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Unio fallax, Lea, pl. 15, fig. 59 79
Proc. Acad. Nat. Sci., 1857, p. 32.
Unio virens, Lea, pl. 16, fig. 60 80
Proc. Acad. Nat. Sci., 1857, p. 169.
Unio Savannahensis, Lea, pl. 16, fig. 61 81
Proc. Acad. Nat. Sci., 1857, p. 169.
Unio sublatus, Lea, pl. 16, fig. 62 82
Proc. Acad. Nat. Sci., 1857, p. 169.
Unio tenebricus, Lea, pl 17, fig. 63 83
Proc. Acad. Nat. Sci., 1857, p. 171.
Unio obnubilus, Lea, pl 17, fig. 64 84
Proc Acad. Nat. Sci., 1857, p. 169.
Unio rufus, Lea, pl. 17, fig 65 85
Proc. Acad. Nat. Sci, 1857, p. 171.
Unio opacus, Lea, pl. 18, fig. 66 86
Proc. Acad. Nat. Sci., 1857, p. 169.

1858. LEA, ISAAC—Continued.

Unio viridicatus, Lea, pl. 18, fig. 67 87
Proc. Acad. Nat. Sci., 1857, p. 170.

Unio fumatus, Lea, pl. 18, fig. 68 88
Proc. Acad. Nat. Sci., 1857, p. 171.

Unio æquatus, Lea, pl. 19, fig. 69 89
Proc. Acad. Nat. Sci., 1857, p. 170.

Unio subflavus, Lea, pl. 19, fig. 70 90
Proc. Acad. Nat. Sci., 1857, p. 170.

Unio similis, Lea, pl. 19, fig. 71 91
Proc. Acad. Nat. Sci., 1857, p. 169.

Unio aquilus, Lea, pl. 20, fig. 72 92
Proc. Acad. Nat. Sci., 1857, p. 172.

Unio maconensis, Lea, pl. 20, fig. 73 93
Proc. Acad. Nat. Sci., 1857, p. 172.

Unio naviculoides, Lea, pl. 20, fig. 74 94
Proc. Acad. Nat. Sci., 1857, p. 170.

149.

1858. LEA, ISAAC. Observations | on the | Genus Unio, | together with | Descriptions of New Species, their Soft Parts, and Embryonic Forms, in | the Family Unionidæ. | Read before the Academy of Natural Sciences of Philadelphia and | published in their Journal. | by | Isaac Lea, LL. D., | President of the Academy of Natural Sciences of Philadelphia, Etc., Etc. | with sixteen plates. | Vol. 6,—Part II. | Philadelphia: | Printed for the author. 4to., pp. 43–95.

This with No. 134 forms No. 150.

150.

1858. LEA, ISAAC. Observations | on the | Genus Unio, | together with | Descriptions of New Species, their Soft Parts, and Embryonic Forms, in | the Family Unionidæ. | Read before the Academy of Natural Sciences of Philadelphia and | published in their Journal. | by | Isaac Lea, LL. D., | President of the Academy of Natural Sciences of Philadelphia, Etc., Etc. | with twenty-nine plates. | Vol. 6. | Philadelphia: | Printed for the author. 4to., pp. 1–97.

This consists of numbers 134 and 149.

151.

1859. LEA, ISAAC. Descriptions of Eight New Species of Unionidæ, from Georgia, Mississippi, and Texas. <*Proc. Acad. Nat. Sci., Phila.*, xi, pp. 112–113. April, 1859.

Read before the Academy Natural Sciences April 5, 1859. Ordered to be printed in the Proceedings April 26, 1859.

Proceedings of the Academy for April laid on the table May 10, 1859. (See *Proc. Acad. Nat. Sci., Phila.*, xi, p. 150.) This forms part of No. 172.

Unio spissus, Lea, n. s. 112
Satilla River, Wayne Co., Geo., T. C. Downie.
Journ. Acad. Nat. Sci., iv, 1859, p. 208.

Unio corvus, Lea, n. s. 112
Buckhead Creek, Burke Co., Geo., Bishop Elliott; Ogeechee River, Geo., Prof. Hanley.
Journ. Acad. Nat. Sci., iv, 1859, p. 217.

Unio Burkensis, Lea, n. s. 112
Buckhead Creek, Burke Co., Geo., Bishop Elliott.
Journ. Acad. Nat. Sci., iv, 1859, p. 215.

Unio aureus, Lea, n. s. 112
Texas, W. Newcomb, M. D.
Journ. Acad. Nat. Sci., v, 1862, p. 195.

Unio curtus, Lea, n. s. 112
Tombigbee River, Columbus, Miss., Wm. Spillman, M. D.
Journ. Acad. Nat. Sci., v, 1862, p. 103.

1859. LEA, ISAAC—Continued.

Unio permiscens, Lea, n. s 112
Tombigbee River, Columbus, Miss., Wm. Spillman, M. D.
Journ. Acad. Nat. Sci., v, 1862, p. 102.

Margaritana elliptica, Lea, n. s 113
Tombigbee River, Columbus, Miss., Wm. Spillman, M. D.
Journ. Acad. Nat. Sci., v, 1862, p. 106.

Anodonta Texasensis, Lea, n. s 113
Texas, W. Newcomb, M. D.
Journ. Acad. Nat. Sci., iv, 1860, p. 366.

152.

1859. LEA, ISAAC. Descriptions of Twenty-one New Species of Exotic Unionidæ. <*Proc. Acad. Nat. Sci., Phila.*, xi, pp. 151–154. May, 1859.

Read before the Academy Natural Sciences April 19, 1859.
Ordered to be published in the Proceedings May 31, 1859. This forms part of No. 172.

Unio Sikkimensis, Lea, n. s 151
Sikkim, India, H. Cuming and Prof. Hanley.
Journ. Acad. Nat. Sci., iv, 1860, p. 251.

Unio diminutis, Lea, n. s 151
East Africa, H. Cuming and Prof. Hanley.
Journ. Acad. Nat. Sci., iv, 1860, p. 254.

Unio plicatulus, Lea, n. s 152
Borneo, H. Cuming.
Journ. Acad. Nat. Sci., iv, 1860, p. 247.

Unio navigioliformis, Lea, n. s 152
Hab. ——? H. Cuming.
Journ. Acad. Nat. Sci., iv, 1860, p. 245.

Unio fluctiger, Lea, n. s 152
Hab. ——? H. Cuming.
Journ. Acad. Nat. Sci., iv, 1860, p. 250.

Unio mutabilis, Lea, n. s 152
Brisbane Water, Australia; New Zealand, H. Cuming; and Murray River, Australia, W. Newcomb, M. D.
Journ. Acad. Nat. Sci., iv, 1860, p. 248.

Unio Thwaitsii, Lea, n. s 152
Ceylon, Mr. Thwaites, by H. Cuming.
Journ. Acad. Nat. Sci., iv, 1860, p. 246.

Unio melleus, Lea, n. s 152
Hab. ——? H. Cuming.
Journ. Acad. Nat. Sci., iv, 1860, p. 250.

Unio Dysonii, Lea, n. s 152
Honduras, D. Dyson.
Journ. Acad. Nat. Sci., iv, 1860, p 252.

Unio Demararaensis, Lea, n. s 152
Demerara, H. Cuming.
Journ. Acad. Nat. Sci., iv, 1860, p. 253, as *U. Demeraraensis*.

Unio Mauritianus, Lea, n. s 152
Island of Mauritius, H. Cuming.
Journ. Acad. Nat. Sci., iv, 1860, p. 257.

Unio vittatus, Lea, n. s 153
Australia, H. Cuming.
Journ. Acad. Nat. Sci., iv, 1860, p. 249.

Unio persulcatus, Lea, n. s 153
Mexico, Prof. Hanley.
Journ. Acad. Nat. Sci., iv, 1860, p. 255.

Unio Shanghaiensis, Lea, n. s 153
Shanghai, China, H. Cuming.
Journ. Acad. Nat. Sci., iv, 1860, p. 242.

Unio Layardii, Lea, n. s 153
Ceylon, Frederick Layard.
Journ. Acad. Nat. Sci., iv, 1860, p. 243.

Unio Japanensis, Lea, n. s 153
Japan, H. Cuming.
Journ. Acad. Nat. Sci., iv, 1860, p. 244.

1859. LEA, ISAAC—Continued.

Unio Sumatrensis, Lea, n. s. 153
Sumatra, H. Cuming.
Journ. Acad. Nat. Sci., iv, 1860, p. 239.

Unio Rowellii, Lea, n. s. 153
Chagres River, New Granada, Rev. Joseph Rowell.
Journ. Acad. Nat. Sci., iv, 1860, p. 256.

Unio Wilsonii, Lea, n. s. 153
Eastern Branch of Isaac's Plain, New South Wales, T. B. Wilson, M. D.
Journ. Acad. Nat. Sci., iv, 1860, p. 256.

Anodonta Dahomeyensis, Lea, n. s. 154
Dahomey, West Africa, Mr. Fraser, by H. Cuming.
Journ. Acad. Nat. Sci., iv, 1860, p. 261.

Anodonta Senegalensis, Lea, n. s. 154
Senegal, J. C. Jay, M. D., E. Verreaux, and H. Cuming.
Journ. Acad. Nat. Sci., iv, 1860, p. 260.

153.

1859. LEA, ISAAC. Descriptions of Two New Species of Uniones, from Georgia. <*Proc. Acad. Nat. Sci., Phila.*, xi, 1859, p. 154.

Read before the Academy of Natural Sciences April 19, 1859, and ordered to be published in the Proceedings May 31, 1859. This forms part of No. 172.

Unio fibulordes, Lea, n. s. 154
Connasauga River, Geo., Bishop Elliott.
Journ. Acad. Nat. Sci., iv, 1859, p. 219.

Unio compactus, Lea, n. s. 154
Etowah River, Geo., Bishop Elliott and Rev. G. White.
Journ. Acad. Nat. Sci., iv, 1859, p. 218.

154.

1859. LEA, ISAAC. Descriptions of seven new species of Uniones from South Carolina Florida, Alabama, and Texas. <*Proc. Acad. Nat. Sci., Phila.*, xi, pp. 154–155.

Read before the Academy Natural Sciences May 10, 1859, and ordered to be published in the Proceedings May 31, 1859. This forms part of No. 172.

Unio cacao, Lea, n. s. 154
Chacktahachie River, West Florida, Major Le Conte.
Journ. Acad. Nat. Sci., iv, 1860, p. 344.

Unio hepaticus, Lea, n. s. 154
Salkakatche River, S. Carolina, J. Postell.
Journ. Acad. Nat. Sci., iv. 1860, p. 348.

Unio viridiradiatus, Lea, n. s. 154
Big Uchee, Ala., near Columbus, Geo., G. Hallenbeck.
Journ. Acad. Nat. Sci., iv, 1860, p. 336.

Unio macrodon, Lea, n. s. 154
Rutersville, Texas, Prof. C. G. Forshey.
Journ. Acad. Nat. Sci., v, 1862, p. 193.

Unio Houstonensis, Lea, n. s. 155
Houston, Texas, F. Moore, M. D.
Journ. Acad. Nat. Sci., iv, 1860, p. 358.

Unio Rutersvillensis, Lea, n. s. 155
Rutersville, Fayette Co., Texas, Prof. C. G. Forshey.
Journ. Acad. Nat. Sci., iv, 1860, p. 356.

Unio Forsheyi, Lea, n. s. 155
Fayette Co., Texas, Prof. C. S. Forshey.
Journ. Acad. Nat. Sci., iv, 1860, p. 357.

155.

1859. LEA, ISAAC. "Remarks on the death of Alexander von Humboldt." <*Proc. Acad. Nat. Sci., Phila.*, xi, pp. 162–164. June, 1859.

Communicated to the Academy Natural Sciences June 7, 1859. This forms part of No. 172.

156.

1859. LEA, ISAAC. Descriptions of Twelve New Species of Uniones, from Georgia. <*Proc. Acad. Nat. Sci., Phila.*, xi, 1859, pp. 170–172. June, 1859.

Read before the Academy of Natural Sciences June 21, 1859, and ordered to be published in the Proceedings June 28, 1859. This forms part of No. 172.

Unio Baldwinensis, Lea, n. s 170
Carter's Creek, Baldwin Co., Geo., J. Postell.
Journ. Acad. Nat. Sci., iv, 1860, p. 330.

Unio viridans, Lea, n. s 170
Near Columbus, Geo., G. Hallenbeck.
Journ. Acad. Nat. Sci., iv, 1860, p. 337.

Unio Hallenbeckii, Lea, n. s 170
Flat Rock Creek and Four Mile Creek, near Columbus, Geo., G. Hallenbeck and Bishop Elliott.
Journ. Acad. Nat. Sci., iv, 1860, p. 328.

Unio sulcbrosus, Lea, n. s 170
Flat Rock Creek and Bull Creek, Georgia, G. Hallenbeck; and Chattahoochee River, near Columbus, Geo., Bishop Elliott.
Journ. Acad. Nat. Sci., iv, 1860, p. 332.

Unio modicellus, Lea, n. s 171
Connasauga River, Bishop Elliott; and Chattanooga River, Geo., T. Stewardson, M. D.
Journ. Acad. Nat. Sci., iv, 1860, p. 347.

Unio latus, Lea, n. s 171
Savannah River, near Savannah, Geo., Rev. G. White and Major Le Conte.
Journ. Acad. Nat. Sci., iv, 1860, p. 334.

Unio verutus, Lea, n. s 171
Flat Rock Creek, near Columbus, Geo., G. Hallenbeck.
Journ. Acad. Nat. Sci., iv, 1860, p. 335.

Unio Johannis, Lea, n. s 171
Connasauga River, Bishop Elliott; and Etowah River, Geo., Rev. G. White; Alabama River, Dr. Budd.
Journ. Acad. Nat. Sci., iv, 1860, p. 343.

Unio Raeensis, Lea, n. s 171
Chattahoochee, near Columbus, and Rae's Creek, Geo., Bishop Elliott.
Journ. Acad. Nat. Sci., iv, 1860, p. 331.

Unio inusitatis, Lea, n. s 171
Swift Creek, below Macon, Geo., Bishop Elliott.
Journ. Acad. Nat. Sci., iv, 1859, p. 333.

Unio Joncsii, Lea, n. s 171
Uharlee Creek, Geo., J. Postell.
Journ. Acad. Nat. Sci., iv, 1860, p. 339.

Unio quadratus, Lea, n. s 172
Carter's Creek, J. Postell; and Factory Creek, Geo., G. Hallenbeck.
Journ. Acad. Nat. Sci., iv, 1860, p. 338.

157.

1859. LEA, ISAAC. [Remark on *Unio Kleinianus*, Lea, possessing a branchial uterus in both lobes of the branchia on each side.] <*Proc. Acad. Nat. Sci., Phila.*, xi, p. 177.

Communicated to the Academy Natural Sciences July 5, 1859. This forms part of No. 172.

"This very remarkable feature, in the functions of the female of this species, constitutes the third which has been observed by Mr. Lea, two he had formerly shown to the Academy, namely, that of *Unio multiplicatus*, Lea, and *rubiginosus*, Lea."

158.

1859. LEA, ISAAC. Descriptions of Four New Species of Exotic Unionidæ. <*Proc. Acad. Nat. Sci., Phila.*, xi, p. 187. July, 1859.

Read before the Academy Natural Sciences July 5, 1859, and ordered to be printed in the Proceedings July 26, 1859. This forms part of No. 172.

Unio bulloides, Lea, n. s 187
Rio de la Plata, S. Amer., G. Von dem Busch, M. D.
Journ. Acad. Nat. Sci., iv, 1860, p. 264.

1859. LEA, ISAAC—Continued.

Monocondylæa planulata, Lea, n. s. 187
Java, G. Von dem Busch, M. D.
Journ. Acad. Nat. Sci., iv, 1860, p. 262.

Monocondylæa rhomboidea, Lea, n. s. 187
Euphrates River, near Bagdad, Asia, G. Von dem Busch, M. D.
Journ. Acad. Nat. Sci., iv, 1860, p. 263.

Unio rudus, Lea, n. s. 187
Rio de la Plata, S. America, G. Von dem Busch, M. D.
Journ. Acad. Nat. Sci., iv, 1860, p. 266.

159.

1859. LEA, ISAAC. New Unionidæ of the United States. <*Journ. Acad. Nat. Sci.*, iv. New series, pp. 191–233. Plates 21 to 32.

Extra copies printed for the author September, 1859. Forms No. 160.

Unio bulbosus, Lea, pl. 21, fig. 75 191
Proc. Acad. Nat. Sci., 1857, p. 172.

Unio Plantii, Lea, pl. 21, fig. 76 192
Proc. Acad. Nat. Sci., 1857, p. 171.

Unio sudus, Lea, pl. 21, fig. 77 194
Proc. Acad. Nat. Sci., 1857, p. 170.

Unio tetricus, Lea, pl. 22, fig. 78 195
Proc. Acad. Nat. Sci., 1857, p. 170.

Unio subniger, Lea, pl. 22, fig. 79 196
Proc. Acad Nat. Sci., 1857, p. 172.

Unio obfuscus, Lea, pl. 22, fig. 80 197
Proc. Acad. Nat. Sci., 1857, p. 172.

Unio purpurellus, Lea, pl. 23, fig. 81 198
Proc. Acad. Nat. Sci., 1857, p. 171.

Unio Woodwardianus, Lea, pl. 23, fig. 82, and pl. 29, fig. 103 199
Proc. Acad. Nat. Sci., 1857, p. 170, as *U. Woodwardius*.

Unio denigratus, Lea, pl. 23, fig. 83 200
Proc. Acad. Nat. Sci., 1857, p. 171.

Unio radians, Lea, pl. 23, fig. 84 201
Proc. Acad. Nat. Sci., 1857, p. 32.

Unio penicillatus, Lea, pl. 23, fig. 85 203
Proc. Acad. Nat. Sci., 1857, p. 171.

Unio modicus, Lea, pl. 24, fig. 86 204
Proc. Acad. Nat. Sci., 1857, p. 171.

Unio Roswellensis, Lea, pl. 24, fig. 87 205
Proc. Acad. Nat. Sci., 1858, p. 165.

Unio Prattii, Lea, pl. 24, figs. 88 and 88*a* 206
Proc. Acad. Nat. Sci., 1858, p. 166.

Unio spissus, Lea, pl. 25, fig. 89 208
Proc. Acad. Nat. Sci., 1859, p. 112.

Unio Chattanoogaensis, Lea, pl. 25, fig. 90 209
Proc. Acad. Nat. Sci., 1858, p. 166.

Unio Downiei, Lea, pl. 25, fig. 91 210
Proc. Acad. Nat. Sci., 1858, p. 166.

Unio Hazlehurstianus, Lea, pl. 26, fig. 92 211
Proc. Acad. Nat. Sci., 1858, p. 166.

Unio Neislerii, Lea, pl. 26, fig. 93 212
Proc. Acad. Nat. Sci., 1858, p. 165.

Unio Postellii, Lea, pl. 26, fig. 94 214
Proc. Acad. Nat. Sci., 1858, p. 165.

Unio Burkensis, Lea, pl. 27, fig. 95 215
Proc. Acad. Nat. Sci., 1859, p. 112.

Unio Satillaensis, Lea, pl. 27, fig. 96 216
Proc. Acad. Nat. Sci., 1858, p. 166.

Unio corvus, Lea, pl. 27, fig. 97 217
Proc. Acad. Nat. Sci., 1859, p. 112.

Unio compactus, Lea, pl. 28, fig. 98 218
Proc. Acad. Nat Sci., 1859, p. 154.

Unio fibuloides, Lea, pl. 28, fig. 100 219
Proc. Acad. Nat. Sci., 1859, p. 154.

1859. LEA, ISAAC—Continued.

Unio phaseolus, Hild, pl. 29, figs. 101 and 101*a* 220
Unio parvus, Barnes, pl. 29, figs. 102 and 102*a* 221
Unio multiplicatus, Lea, pl. 30, fig. 105 222
Trans. Amer. Philos. Soc., N. S., v, p. 4.
Unio stramineus, Con., pl. 30, fig. 106 223
Unio ventricosus, Barnes, pl. 30, fig. 107 224
Margaritana margaritifera, Lea, pl. 29, fig. 104 224
Synopsis Family Naiades, 3d edition, p. 43.
Margaritana Elliottii, Lea, pl. 31, fig. 108 226
Proc. Acad. Nat. Sci., 1858, p. 138.
Margaritana Etowahensis, Lea, pl. 31, fig. 110 227
Proc. Acad. Nat. Sci., 1858, p. 138.
Margaritana trianjulata, Lea, pl. 32, fig. 111 228
Proc. Acad. Nat. Sci., 1858, p. 138.
Margaritana Connasaugaensis, Lea, pl. 32, fig. 113 229
Proc. Acad. Nat. Sci., 1858, p. 138.
Anodonta Dariensis, Lea, pl. 28, fig. 99 230
Proc. Acad. Nat. Sci., 1858, p. 139.
Anodonta Gesnerii, Lea, pl. 31, fig. 109 231
Proc. Acad. Nat. Sci., 1858, p. 139.
Anodonta Hallenbeckii, Lea, pl. 32, fig. 112 232
Proc. Acad. Nat. Sci., 1858, p. 138.

160.

1859. LEA, ISAAC. Observations | on the | Genus Unio, | together with | Descriptions of New Species, their Soft Parts, and Embryonic Forms, in | the Family Unionidæ. | Read before the Academy of Natural Sciences of Philadelphia, and | published in their Journal. | by | Isaac Lea, LL. D., | President of the Academy of Natural Sciences, Etc., Etc. | with twelve plates. | Vol. 7.—Part I. | — | Philadelphia: | Printed for the author. 4to., pp. 8–51.

The separate of No. 159, and with No. 169 forms No. 170

Presented to the Library of the Academy Natural Sciences, Phila., on or before October 4, 1859.

161.

1859. LEA, ISAAC. [Change of name of *Margaritana Etowahensis* to *M. Georgiana*.] <*Proc. Acad. Nat. Sci., Phila.*, xi, p. 280. October, 1859.

Communicated to the Academy Natural Sciences October 18, 1859. Minutes of that meeting issued November 1, 1859. (See *Proc. Acad. Nat. Sci., Phila.*, xi, p. 292.)

The specific name *Etowahensis* preoccupied by Mr. Conrad.

This forms part of No. 172.

Margaritana Georgiana, Lea, n. s 280

162.

1859. LEA, ISAAC. [Resolutions on the death of Thomas Nuttall.] <*Proc. Acad. Nat. Sci., Phila.*, xi, 1859, p. 281.

Resolutions offered October 18, 1859.

163.

1859. LEA, ISAAC. Description of a New Species of Unio from the Isthmus of Darien. <*Proc. Acad. Nat. Sci., Phila.*, xi, p. 281. October, 1859.

Read before the Academy Natural Sciences October 18, 1859, and ordered to be printed in the Proceedings October 25, 1859. Issued November 1, 1859. (See *Proc. Acad. Nat. Sci., Phila.*, xi, p. 292.) This forms part of No. 172.

Unio Averyi, Lea, n. s 281
Isthmus of Darien, Mr. Frederick Avery, per J. G. Cooper, M. D.
Journ. Acad. Nat. Sci., iv, 1860, p. 269.

164.

1859. LEA, ISAAC. [Remarks on four species of the genus Unio, known to have a branchial uterus in each lobe of the branchia; and also on the Power of

1859. LEA, ISAAC—Continued.

Vision in the family Unionidæ.] <*Proc. Acad. Nat. Sci., Phila.*, xi, pp. 349–350. December, 1859.

Communicated December 6, 1859. This forms part of No. 172.

"We now know of four species which have this remarkable provision of a branchial uterus in each lobe or leaf of the branchia, viz:

Unio multiplicatus,
Unio rubiginosus,
Unio Kleinianus,
Unio subrotundus,

and of these, two at least have the very remarkable condition of redness of the ova, viz:

Unio rubiginosus,
Unio subrotundus."

"He found the following species always to close the anal opening, and to withdraw the papillæ of the branchial opening when the light was suddenly intercepted, viz:

Unio cylindricus, Say.
Unio rubiginosus, Lea.
Unio subrotundus, Lea.
Unio pyramidatus, Lea.
Unio obscurus, Lea.
Unio pustulosus, Lea.
Unio Æsopus, Green.
Anodonta imbecilis, Say."

165.

1859. LEA, ISAAC. Descriptions of Three New Species of Exotic Uniones. <*Proc. Acad. Nat. Sci., Phila.*, xi, p. 331. December, 1859.

Read before the Academy Natural Sciences December 6, 1859, and ordered to be published in the Proceedings December 27, 1859. This forms part of No. 172.

Unio Wynegungaensis, Lea, n. s 331
Wynegunga River, 30 miles east of Nagpoor, in the Deccan, Bengal, C. M. Wheatley.
Journ. Acad. Nat. Sci., iv, 1860, p. 271.

Unio consobrinus, Lea, n. s 331
China, C. M. Wheatley.
Journ. Acad. Nat. Sci., iv, 1860, p. 272.

Unio Nagpoorensis, Lea, n. s 331
Ambajiri Tank, Nagpoor, Bengal, C. M. Wheatley.
Journ. Acad. Nat. Sci., iv, 1860, p. 270.

166.

1860. LEA, ISAAC. [Remarks and Resolutions on the death of Augustus E. Jessup.] <*Proc. Acad. Nat. Sci.*, xii, pp. 1–2. January, 1860.

Communicated January 3, 1860. Proceedings for January laid on the table February 14, 1860. (See *Proc. Acad. Nat. Sci., Phila.*, xii, p. 54.)

167.

1860. LEA, ISAAC. [Remarks on the number of species of Unionidæ in the United States and Territories.] <*Proc. Acad. Nat. Sci., Phila.*, xii, p. 3.

Communicated January 24, 1860. Proceedings for January laid on the table February 14, 1860. (See *Proc. Acad. Nat. Sci., Phila.*, xii, p. 54.) This forms part of No. 172.

"From the list he had carefully eliminated the synonyms, and there remained in it the extraordinarily large number of five hundred and twenty species which have been described, inhabiting the Rivers, Lakes and Pools of the United States and Territories, and he stated that he had some 30 to 40 in his possession not yet named or described.

These 520 may be thus divided:

Unio	441	species.
Margaritana	26	do.
Anodonta	53	do.
	520	
New species in Mr. Lea's possession not yet described	30	
	550."	

For correction of this paper see No. 173,

168.

1859. LEA, ISAAC. Descriptions of Exotic Unionidæ. <*Journ. Acad. Nat. Sci., Phila.*, iv, pp. 235–273. plates 33 to 45.

Read before the Academy of Natural Sciences December 20, 1859. Extra copies printed for the author February, 1860. (See *Journ. Acad. Nat. Sci., Phila.*, iv, p. 3.) For Separate see No. 169. With No. 160 forms part of No. 170.

Monocondylæa Cumingii, Lea, pl. 33, fig. 114 235
Proc. Zool. Soc. London, 1850, p. 199, as *Anodonta Cumingii*, Lea.
Anodonta subcrassa, Lea, pl. 33, fig. 115 236
Proc. Zool. Soc. Lond., 1850, p. 198.
Anodonta tenuis, Lea, pl. 33, fig. 116 237
Proc. Zool. Soc. Lond., 1850, p. 198.
Anodonta crepera, Lea, pl. 34, fig. 117 238
Proc. Zool. Soc. Lond., 1850, p. 198.
Unio Sumatrensis, Lea, pl. 34, fig. 118 239
Proc. Acad. Nat. Sci., 1859, p. 153.
Anodonta gracilis, Lea, pl. 34, fig. 119 239
Proc. Zool. Soc. London, 1850, p. 197.
Unio Cumingii, Lea, pl. 35, fig. 120 240
Proc. Acad. Nat. Sci., vi, p. 54.
Unio Shanghaiensis, Lea, pl. 36, fig. 121 242
Proc. Acad. Nat. Sci., 1859, p. 153.
Unio Layardii, Lea, pl. 36, fig. 122 243
Proc. Acad. Nat. Sci., 1859, p. 153.
Unio Japanensis, Lea, pl. 36, fig. 123 244
Proc. Acad. Nat. Sci., 1859, p. 153.
Unio navigioliformis, Lea, pl. 37, fig. 124 245
Proc. Acad. Nat. Sci., 1859, p. 152.
Unio Thwaitesii, Lea, pl. 37, fig 125 246
Proc. Acad. Nat. Sci., 1859, p. 152.
Unio plicatulus, Lea, pl. 37, fig. 126 247
Proc. Acad. Nat. Sci., 1859, p. 152.
Unio mutabilis, Lea, pl. 38, fig. 127 248
Proc. Acad. Nat. Sci., 1859, p. 152.
Unio vittatus, Lea, pl. 38, fig. 128 249
Proc. Acad. Nat. Sci., 1859, p. 153.
Unio melleus, Lea, pl. 38, fig. 129 250
Proc. Acad. Nat. Sci., 1859, p. 152.
Unio fluctiger, Lea, pl. 39, fig. 130 250
Proc. Acad. Nat. Sci., 1859, p. 152.
Unio Sikkimensis, Lea, pl. 39, fig. 131 251
Proc. Acad. Nat. Sci., 1859, p. 151.
Unio Dysonii, Lea, pl. 39, fig. 132 252
Proc. Acad. Nat. Sci., 1859, p. 152.
Unio Demararaensis, Lea, pl. 39, fig. 133 253
Proc. Acad. Nat. Sci., 1859. p. 152, as *U. demararaensis.*
Unio diminutus, Lea, pl. 39, fig. 134 254
Proc. Acad. Nat. Sci., 1859, p. 151, as *U. diminutis.*
Unio persulcatus, Lea, pl. 40, fig. 135 255
Proc. Acad. Nat. Sci., 1859, p. 153.
Unio Rowellii, Lea, pl. 40, fig. 136 256
Proc. Acad. Nat. Sci., 1859, p. 153.
Unio Wilsonii, Lea, pl. 40, fig. 137 256
Proc. Acad. Nat. Sci., 1859, p. 153.
Unio Mauritianus, Lea, pl. 40, fig. 138 257
Proc. Acad. Nat. Sci., 1859, p. 152.
Unio Goascoranensis, Lea, pl. 41, fig. 139 258
Proc. Acad. Nat. Sci., 1858, p. 118.
Unio scamnatus, Morelet 259
Anodonta Senegalensis, Lea, pl. 41, fig. 140 260
Proc. Acad. Nat. Sci., 1859, p. 154.
Anodonta Dahomeyensis, Lea, pl. 41, fig. 141 261
Proc. Acad. Nat. Sci., 1859, p. 154.
Monocondylæa planulata, Lea, pl. 42, fig. 142 262
Proc. Acad. Nat. Sci., 1859, p. 187.

1859. LEA, ISAAC—Continued.

Monocondylœa rhomboidea, Lea, pl. 42, fig. 143 263
Proc. Acad. Nat. Sci., 1859, p. 187.
Unio bulloides, Lea, pl. 42, fig. 144 264
Proc. Acad. Nat. Sci., 1859, p. 187.
Unio Caldwellii, Lea, pl. 43, fig. 145 265
Proc. Acad. Nat. Sci., 1858, p. 118.
Unio rudus, Lea, pl. 43, fig. 146 266
Proc. Acad. Nat. Sci., 1859, p. 187.
Anodonta luteola, Lea, pl. 43, fig. 147 267
Proc. Acad. Nat. Sci., 1858, p. 118.
Unio Canadensis, Lea, pl. 44, fig. 148 268
Proc. Acad. Nat. Sci., 1857, p. 85.
Unio Averyi, Lea, pl. 44, fig. 149 269
Proc. Acad. Nat. Sci., 1859, p. 281.
Unio Nagpoorensis, Lea, pl. 45, fig. 150 270
Proc. Acad. Nat. Sci., 1859, p. 331.
Unio Wynegungaensis, Lea, pl. 45, fig. 151 271
Proc. Acad. Nat. Sci., 1859, p. 331.
Unio consobrinus, Lea, pl. 45, fig. 152 272
Proc. Acad. Nat. Sci., 1859, p. 331.

169.

1860. LEA, ISAAC. Observations | on the | Genus Unio, | together with | Descriptions of New Species, their Soft Parts, and Embryonic Forms, in | the Family Unionidæ. | Read before the Academy of Natural Sciences of Philadelphia and | published in their Journal. | by | Isaac Lea, LL. D., | President of the Academy of Natural Sciences of Philadelphia, Etc. Etc. | with thirteen plates. | Vol. 7. | Part II. | Philadelphia: | Printed for the Author. 4to., pp. 53–91. plates 33–45.

This is the separate of No. 168, and with No. 160 forms No. 170.

170.

1860. LEA, ISAAC. Observations | on the | Genus Unio, | together with | Descriptions of New Species, their Soft Parts, and Embryonic Forms, in | the Family Unionidæ. | Read before the Academy of Natural Sciences of Philadelphia and | published in their Journal. | by | Isaac Lea, LL. D., | President of the Academy of Natural Sciences of Philadelphia, Etc. Etc. | with twenty-five plates. | Vol. 7. | Philadelphia: | Printed for the Author. 4to. pp. 93.

Presented to the Library of the Academy of Natural Sciences, Phila., on or before March 17, 1860. (See *Proc. Acad. Nat. Sci., Phila.*, xii, p. iv.)

171.

1860. LEA, ISAAC. [Remarks on abnormal shells.] <*Proc. Acad. Nat. Sci., Phila.*, xii, 1860, pp. 51–53.

Remarks made February 11, 1860. This forms part of No. 172.

"The following table will exhibit the various abnormal forms of *Uniones* in Mr. Lea's collection:

Single lateral tooth in each valve.

Unio complanatus, Lea (*Mya complanata*, Solan), Schuylkill river, Pa.
" *occidens*, Lea, Wisconsin.
" *purpuratus*, Lam., Claiborne, Ala.
" *ventricosus*, Bar., St. Lawrence, Montreal.

Single lateral tooth in the left, and double in the right valve.

Unio complanatus, Lea, 2 specimens, Bristol, Pa., and Mohawk, N. Y.
" *alatus*, Say, Ohio River.
" *Hopetonensis*, Lea, Darien, Geo.
" *nasutus*, Say, Arkansas.
" *radiatus*, Lam., Petersburg, Vir.

Double lateral tooth in both valves.

1860. LEA, ISAAC—Continued.

Unio complanatus, Lea, 6 specimens, **Mohawk, N. Y.**
" " " Genesee, N. Y.
" " " Schuylkill, Pa.
" *corrugatus*, Lam., Pondichery, India.

Treble lateral tooth in the left, and double in the right valve.

Unio corrugatus, Lam., Bengal.

Treble lateral tooth in the left, and partly treble in the right valve.

Unio gibbosus, Barnes, Fox River, Wisconsin.
" *corrugatus*, Lam., India."

"In the following table will be found most of the species which, while they are perfectly normal, are still aberrant from the typical *Unio*, all of them but two having been described by Mr. Lea.

Cardinal tooth single in both valves.

Unio Bengalensis, Lea, Bengal.

Cardinal tooth double in the right, and single in the left valve.

Unio Corrianus, Lea, Bengal.
" *lamellatus*, Lea, Bengal.
" *bilineatus*, Lea, Bengal.
" *contradens*, Lea, Java?
" *gravidus*, Lea, Siam.
" *tumidulus*, Lea, Siam.
" *humilis*, Lea, Siam.
" *sagittarius*, Lea, Siam.
" *substriatus*, Lea, Siam.
" *Dunkerianus*, Lea, Brazil.
" *Cambodianus*, Lea, Siam.
" *consobrinus*, Lea, China.
" *Layardii*, Lea, Ceylon.
" *plicatulus*, Lea, Borneo.
" *vittatus*, Lea, Australia.
" *Wilsonii*, Lea, Australia.
" *Mauritianus*, Lea, Indian Ocean.
" *bulloides*, Lea, Rio Plata, S. Amer.
" *atratus* (Niäa, Swain), Chili.
" *Araucanus*, Philippi, Chili.
" *piceus*, Lea, Uruguay, S. Amer.

Caudal and lateral teeth double in both valves.

Unio phaselus, Lea, Siam.
" *scobinatus*, Lea, Siam.

Lateral tooth double in the right valve only.

Unio heterodon, Lea, Penn.

Lateral tooth double in both valves.

Unio nucleus, Lea, Siam.

Lateral tooth treble in the left, and double in the right valve.

Unio eximius, Siam.

Cardinal tooth treble in the right valve.

Unio funebralis, Lea, Uruguay river, S. Amer.

Cardinal tooth treble in both valves, and lateral tooth treble in the right and double in the left valve.

Unio trifidus, Lea, Buenos Ayres, S. Amer.

172.

1860. LEA, ISAAC. Descriptions of Eight New Species of Unionidæ, | from Georgia, Mississippi and Texas. | — | Descriptions of Twenty-one New Species of Exotic Unionidæ. | — | Descriptions of two New Species of Uniones, | from Georgia. | Descriptions of seven New Species of Uniones, | from South Carolina, Florida, Alabama and Texas. | — | Remarks on Alexander von Humboldt. | Descriptions of twelve New Species of Uniones, | from Georgia. | Descriptions of four New Species of Exotic Unionidæ. | — | Descriptions of a New Species of Unio, | from the Isthmus of Darien. | — | Observations on Species with the four branchiæ | charged with ovæ, and on Red Ovæ. | — | Descriptions of three New Species of Exotic Uniones. | — | On the number of species of Unionidæ of the | United States. | — | On various forms of the Teeth of

1860. LEA, ISAAC—Continued.

Heterostrophe Unionidæ. | — | by | Isaac Lea, LL. D. | Pres. Acad. Nat. Sci., &c. &c. &c. | — | Philadelphia: | Merrihew & Thompson, Printers, | Lodge St., corner of Kenton Place, | 1860. 8°. pp. 24.

This consists of Numbers 151, 152, 153, 154, 155, 156, 157, 158, 161, 163, 164, 165, 167, 171, and was presented to the Library of the Academy of Natural Sciences, Phila., on or before April 3, 1860. (See *Proc. Acad. Nat. Sci., Phila.*, xii, p. v.)

173.

1860. LEA, ISAAC. [Remarks on the number of Unionidæ of North America.] <*Proc. Acad. Nat. Sci., Phila.*, xii, p. 85.

Communicated March 13, 1860. This forms part of No. 202.

"Mr. Lea stated that when he made some remarks a few weeks since, on the *Unionidæ* of the United States, he gave the number of them incorrectly by an inadvertence. He now desired to restate them numerically:

Unio	465	species.
Margaritana	26	"
Anodonta	59	"
	550	
To these may be added new species in his cabinet not yet described	30	
	580	
And to these may be added for North America, known to inhabit Mexico, Honduras, Central America, and one in Canada, Unio	29	
Anodonta	8	
	— 37	
	617"	

174.

1860. LEA, ISAAC. [Remarks on letter of Dr. Lewis on the coloring matter of the nacre of Unones.] <*Proc. Acad. Nat. Sci., Phila.*, xii, 1860, pp. 88–89.

Communicated March 20, 1860. This forms part of No. 202.

175.

1860. LEA, ISAAC. Descriptions of Four New Species of Unionidæ from Brazil and Buenos Ayres. <*Proc. Acad. Nat. Sci., Phila.*, xii, pp. 89–90.

Read before the Academy Natural Sciences March 13, 1860. Ordered to be printed in the Proceedings March 27, 1860. This forms part of No. 202.

Unio trifidus, Lea, n. s 89

Buenos Ayres, S. Amer., M. D'Orbigny.

Journ. Acad. Nat. Sci., v, 1863, p. 386.

Unio patelloides, Lea, n. s 89

Amazon river, Brazil, Capt. Geo. Brown; Rio Plata, H. Cuming.

Journ. Acad. Nat. Sci., v, 1863, p. 383.

Anodonta Amazonensis, Lea, n. s 89

Upper Amazon, Brazil. C. M. Wheatley.

Journ. Acad. Nat Sci., v, 1863, p. 395.

Anodonta Moricandii, Lea, n. s 90

Bahia, Brazil, S. Moricand, Geneva.

Journ. Acad. Nat. Sci., v, 1863, p. 396.

176.

1860. LEA, ISAAC. Descriptions of Fifteen new Species of Uruguayan Unionidæ. <*Proc. Acad. Nat. Sci., Phila.*, xii, pp. 90–92.

Read before the Academy March 13, 1860. This forms part of No. 202.

Collected on an excursion, organized by R. B. Forbes, Esq., of Boston, to the La Plata, the Uruguay, and Rio Negro rivers, in South America, and placed at the disposal of Dr. Lea, by Professor J. Wyman, who accompanied it."

Unio Wymanii, Lea, n. s 90

Uruguay river, S. Amer., Prof. J. Wyman.

Journ. Acad. Nat. Sci., v, 1863, p. 381.

Unio Uruguayensis, Lea, n. s 90

Uruguay river, S. Amer., Prof. J. Wyman.

Journ. Acad. Nat. Sci., v, 1863, p. 388.

1860. LEA, ISAAC—Continued.

Unio piger, Lea, n. s 90
Uruguay river, S. Amer., Prof. J. Wyman.
Journ. Acad. Nat. Sci., v, 1863, p. 387.

Unio peræformis, Lea, n. s 90
Uruguay river, S. Amer., Prof. J. Wyman.
Journ. Acad. Nat. Sci., v, 1863, p. 384.

Unio nocturnis, Lea, n. s 91
Uruguay river, S. Amer., Prof. J. Wyman.
Journ. Acad. Nat. Sci., v, 1863, p. 380.

Unio funebralis, Lea, n. s 91
Uruguay river, S. Amer., Prof. J. Wyman.
Journ. Acad. Nat. Sci., v, 1863, p. 378.

Unio gratus, Lea, n. s 91
Uruguay river, S. Amer., Prof. J. Wyman.
Journ. Acad. Nat. Sci., v, 1863, p. 382.

Unio disculus, Lea, n. s 91
Uruguay river, S. Amer., Prof. J. Wyman.
Journ. Acad. Nat. Sci., v, 1863, p. 385.

Unio piceus, Lea, n. s 91
Uruguay river, S. Amer., Prof. J. Wyman.
Journ. Acad. Nat. Sci., v, 1863, p. 379.

Unio lepidus, Lea, n. s 91
Uruguay river, S. Amer., Prof. J. Wyman.
Journ. Acad. Nat. Sci., v, 1863, p. 389.

Unio Æthiops, Lea, n. s 91
Uruguay river, S. Amer., Prof. J. Wyman.
Journ. Acad. Nat. Sci., v, 1863, p. 377.

Anodonta Wymanii, Lea, n. s 91
Uruguay river, S. Amer., Prof. J. Wyman.
Journ. Acad. Nat. Sci., v, 1863, p. 390.

Anodonta rubicunda, Lea, n. s 92
Uruguay river, S. Amer., Prof. J. Wyman.
Journ. Acad. Nat. Sci., v, 1863, p. 392.

Anodonta Forbesiana, Lea, n. s 92
Uruguay river, S. Amer., Prof. J. Wyman.
Journ. Acad. Nat. Sci., v, 1863, p. 393.

Anodonta Uruguayensis, Lea, n. s 92
Uruguay river, S. Amer., Prof. J. Wyman.
Journ. Acad. Nat. Sci., v, 1863, p. 393.

177.

1860. LEA, ISAAC. Descriptions of Five New Species of Unioues, from North Alabama. <*Proc. Acad. Nat. Sci., Phila.*, xii, pp. 92–93.

Read before the Academy Natural Sciences March 20, and ordered to be published in the Proceedings March 27, 1860. This forms part of No. 202.

Unio pudicus, Lea, n. s 92
North Alabama, Prof. Tuomey; and Florence, Alabama, L. B. Thornton, Esq.
Journ. Acad. Nat. Sci., iv, 1860, p. 346.

Unio camelopardilis, Lea, n. s 92
North Alabama, Prof. Tuomey.
Journ. Acad. Nat. Sci., iv, 1860, p. 355.

Unio fucatus, Lea, n. s 92
North Alabama, Prof. Tuomey; Tuscumbia, L. B. Thornton, Esq.
Journ. Acad. Nat. Sci., iv, 1860, p. 353.

Unio discrepans, Lea, n. s 92
North Alabama, Prof. Tuomey.
Journ. Acad. Nat. Sci., iv, 1860, p. 340.

Unio planicostatus, Lea, n. s 92
Tuscumbia, Alabama, L. B. Thornton, Esq.
Journ. Acad. Nat. Sci., iv, 1860, p. 354.

Unio scitulus, Lea, n. s 93
Tuscumbia, Ala., L. B. Thornton, Esq.
Journ. Acad. Nat. Sci., iv, 1860, p. 342.

178.

1860. LEA, ISAAC. Descriptions of Four New Species of Melanidæ of the United States. <*Proc. Acad. Nat. Sci., Phila.*, xii, p. 93.

Read before the Academy Natural Sciences March 20, 1860, and ordered to be printed in the Proceedings March 27, 1860. This forms part of No. 202.

Schizochilus Showalterii, Lea, n. s 93
Coosa River, Uniontown, Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 246, as *Schizostoma Showalterii*.

Anculosa Showalterii, Lea, n. s 93
Coosa River, Uniontown, Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 255.

Melania crenatella, Lea, n. s 93
Coosa River, Uniontown, Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 268, as *Goniobasis crenatella*.

Melania Newberryi, Lea, n. s 93
Upper des Chutes River, Oregon Terr., J. S. Newberry, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 300, as *Goniobasis Newberryi*.

179.

1860. LEA, ISAAC. [Remarks on a new form of Palpi of Anodonta from the Uruguay River, S. America.] <*Proc. Acad. Nat. Sci., Phila.*, xii, p. 97.

Communicated April 10, 1860. This forms part of No. 202.

"The form of the *Palpi* heretofore described have always been obliquely or transversely elliptical or subtriangular, while these two species, *An. Wymanii*, Lea, and *An. lato-marginata*, Lea, *are round*, and the pair on either side only joined above, the edges being entirely free."

180.

1860. LEA, ISAAC. [Remarks on letter of Dr. Showalter, of Ala., on specimens of *Physa* (*gyrina*), Say, obtained in water supplied by an artesian well.] <*Proc. Acad. Nat. Sci., Phila.*, xii, p. 147.

Communicated May 8, 1860. This forms part of No. 202.

181.

1860. LEA, ISAAC. [Remarks on perforation of rocks by Echini.] <*Proc. Acad. Nat. Sci., Phila.*, xii, p. 149.

Made before the Academy of Natural Sciences May 22, 1860. This forms part of No. 202.

182.

1860. LEA, ISAAC. Descriptions of Fourteen new species of Schizostomæ, Anculosæ and Lithasiæ. <*Proc. Acad. Nat. Sci., Phila.*, xii, pp. 186–188.

Read before the Academy May 22, 1860. This forms part of No. 202.

Reasons for adopting the name Schizostoma 186

Schizostoma castanea, Lea, n. s 186
Coosa River, Alab., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 247.

Schizostoma glans, Lea, n. s 186
Coosa River, Alab., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 248.

Schizostoma globosa, Lea, n. s 187
Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 252.

Schizostoma virens, Lea, n. s 187
Coosa River, Alab., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 253.

Schizostoma glandula, Lea, n. s 187
Coosa River, Alab., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 249.

Schizostoma Wetumpkaensis, Lea, n. s 187
Coosa River, Alab., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 251.

1860. LEA, ISAAC—Continued.

Schizostoma Alabamensis, Lea, n. s 187
Alabama, B. W. Budd, M. D., and E. R. Showalter, M. D.
Journ Acad. Nat. Sci., v, 1863, p. 250.

Schizostoma Hartmanii, Lea, n. s 187
Coosa River, Alab., W. D. Hartman, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 247.

Schizostoma pumila, Lea, n. s 187
Alabama, B. W. Budd, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 252.

Anculosa formosa, Lea, n. s 187
Coosa River, Shelby Co., Alab., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 254.

Anculosa contorta, Lea, n. s 187
Coosa River, at Wetumpka, Alab., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p 258.

Anculosa vittata, Lea, n. s 188
Coosa River, at Wetumpka, Alab., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 256.

Lithasia Showalterii, Lea, n. s 188
Coosa River, at Wetumpka, Alab., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 262.

Lithasia nuclea, Lea, n. s 188
Coosa River, Alab., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 263.

183.

1860. LEA, ISAAC. Descriptions of Two New Species of Unionos from Georgia. <*Proc. Acad. Nat. Sci., Phila.*, xii, p. 305. July, 1860.

Read before the Academy Natural Sciences July 3, 1860, and ordered to be published in the Proceedings July 31, 1860. Proceedings for July laid on the table August 7, 1860. (See *Proc. Acad. Nat. Sci., Phila.*, xii, p. 325.) This forms part of No. 202.

Unio linguæformis, Lea, n. s 305
Columbus, Georgia.
Journ. Acad. Nat. Sci., iv, 1860, p. 345.

Unio dispar, Lea, n. s 305
Columbus, Georgia, Bishop Elliott and G. Hallenbeck.
Journ. Acad. Nat. Sci., iv, 1860, p. 327.

184.

1860. LEA, ISAAC. Descriptions of Three New Species of Unionos from Mexico. <*Proc. Acad. Nat. Sci., Phila.*, xii. pp. 305–306.

Read before the Academy Natural Sciences July 3, 1860, and ordered to be published in the Proceedings July 31, 1860. Proceedings for July laid on the table August 7, 1860. (See *Proc. Acad. Nat. Sci., Phila.*, xii, p. 325.) This forms part of No. 202.

Unio Couchianus, Lea, n. s 305
Rio Salado, New Leon, Mexico, L. Berlandier, M. D.
Journ. Acad. Nat. Sci., iv, 1860, p. 371.

Unio Saladoensis, Lea, n. s 305
Rio Salado, New Leon, Mexico, L. Berlandier, M. D.
Journ. Acad. Nat. Sci, iv, 1860, p. 370.

Unio cognatus, Lea, n. s 306
Rio Salado, New Leon, Mexico, L. Berlandier, M. D.
Journ. Acad. Nat. Sci., iv, 1860, p. 368.

185.

1860. LEA, ISAAC. Descriptions of Seven New Species of Unionidæ from the United States. <*Proc. Acad. Nat. Sci., Phila.*, xii, pp. 306–307.

Presented for publishing July 3, 1860. Proceedings for July laid on the table August 7, 1860. (*Proc. Acad. Nat. Sci., Phila.*, xii, p. 325.) This forms part of No. 202.

Unio Lesleyi, Lea, n. s 306
Kentucky, Mr. Joseph Lesley; Tennessee, Mr. J. G. Anthony.
Journ. Acad. Nat. Sci., iv, 1860, p. 352.

1860. LEA, ISAAC—Continued.

Unio castus, Lea, n. s 306
South Carolina, Prof. Tuomey.
Journ. Acad. Nat. Sci., iv, 1860, p. 349.

Unio Lindsleyi, Lea, n. s 306
Tennessee, President J. B. Lindsley.
Journ. Acad. Nat. Sci., iv, 1860, p. 351.

Unio perpictus, Lea, n. s 306
Bull River, Tenn.. Pres't Estabrook; Holston River, Prof. Troost.
Journ. Acad. Nat. Sci., iv, 1860, p. 350.

Unio Eightsii, Lea, n. s 306
Texas and Sabinas River, New Leon, Mexico, James Eights, M. D.
Journ. Acad. Nat. Sci., iv, 1860, p. 367.

Unio quadrans, Lea, n. s 306
Texas, Mr. C. M. Wheatley.
Journ. Acad. Nat. Sci., iv, 1860, p. 360.

Anodonta Kennerlyi, Lea, n. s 306
Chileweyuch Depot, near Puget's Sound, Washington Terr., C. B. Kennerly, M. D.

186.

1860. LEA, ISAAC. Descriptions of Six New Species of Unionidæ from Alabama. <*Proc. Acad. Nat. Sci., Phila.*, xii, p. 307.

Read before the Academy of Natural Sciences July 3, 1860, and ordered to be published in the Proceedings July 31, 1860. Proceedings for July laid on the table August 7, 1860. (See *Proc. Acad. Nat. Sci., Phila.*, xii, p. 325.) This forms part of No. 202.

Unio Showalterii, Lea, n. s 307
Coosa River, Wetumpka, Alab., E. R. Showalter, M. D.

Unio Hartmanianus, Lea, n. s 307
Coosa River, Wetumpka, Alab., E. R. Showalter, M. D.

Unio dolosus, Lea, n. s 307
Alabama River, Claiborne, Alab., Judge Tait; Coosa River, E. R. Showalter, M.D.

Unio parvulus, Lea, n. s 307
Coosa River, Alab., E. R. Showalter, M. D.

Unio plancus, Lea, n. s 307
Coosa River, at Wetumpka, Alab., E. R. Showalter, M. D.

Anodonta Showalterii, Lea, n. s 307
Coosa River, Wetumpka, Alab., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., 1862, p. 215.

187.

1860. LEA, ISAAC. Descriptions of Three New Species of Exotic Unionidæ. <*Proc. Acad. Nat. Sci., Phila.*, xii, pp. 307–308.

Read before the Academy Natural Sciences July 3, 1860, and ordered to be published in the Proceedings July 31, 1860. Proceedings for July laid on the table August 7, 1860. (See *Proc. Acad. Nat. Sci., Phila.*, xii, p. 325.) This forms part of No. 202.

Unio occatus, Lea, n. s 307
Bengal, W. A. Haines.
Journ. Acad. Nat. Sci., v, 1863, p. 398.

Anodonta Cailliaudii, Lea, n. s 308
Brazil, Monr. F. Cailliaud.
Journ. Acad. Nat. Sci., v, 1863, p. 395.

Mycetopus emarginatus, Lea, n. s 308
Siam, S. R. House, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 398.

188.

1860. LEA, ISAAC. [Remark on Helix Cumberlandiana.] <*Proc. Acad. Nat. Sci., Phila.*, xii, p. 363.

Communicated Sept. 18, 1860.

Remark on letter from Bishop Elliott, of Georgia, dated University Place, Tennessee, on the occurrence of numerous living specimens of *Helix Cumberlandiana* at that place.

189.

1860. LEA, ISAAC. New Unionidæ of the United States and Northern Mexico. <*Journ. Acad. Nat. Sci., Phila.*, iv, N. Series, pp. 327–374.

Read before the Academy Natural Sciences, Phila., October 2, 1860. Extra copies printed for the author November, 1860. (See *Journ. Acad. Nat. Sci., Phila.*, iv, p. 4.) For separate, see No. 190.

Unio dispar, Lea, pl. 51, fig. 153 327
Proc. Acad. Nat. Sci., 1860, p. 305.
Unio Hallenbeckii, Lea, pl. 51, fig. 154 328
Proc. Acad. Nat. Sci., 1859, p. 170.
Unio Baldwinensis, Lea, pl. 51, fig. 155 330
Proc. Acad. Nat. Sci., 1859, p. 170.
Unio Racénsis, Lea, pl. 52, fig. 156 331
Proc. Acad. Nat. Sci., 1859, p. 171.
Unio salebrosus, Lea, pl. 52, fig. 157 332
Proc. Acad. Nat. Sci., 1859, p. 170.
Unio inusitatis, Lea, pl. 52, fig. 158 333
Proc. Acad. Nat. Sci., 1859, p. 171.
Unio latus, Lea, pl. 53, fig. 159 334
Proc. Acad. Nat. Sci., 1859, p. 171.
Unio verutus, Lea, pl. 53, fig. 160 335
Proc. Acad. Nat. Sci., 1859, p. 171.
Unio viridiradiatus, Lea, pl. 53, fig. 161 336
Proc. Acad. Nat. Sci., 1859, p. 154.
Unio viridans, Lea, pl. 54, fig. 162 337
Proc. Acad. Nat. Sci., 1859, p. 170.
Unio quadratus, Lea, pl. 54, fig. 163 338
Proc. Acad. Nat. Sci., 1859, p. 172.
Unio Jonesii, Lea, pl. 54, fig. 164 339
Proc. Acad. Nat. Sci., 1859, p. 171.
Unio discrepans, Lea, pl. 55, fig. 165 340
Proc. Acad. Nat. Sci., 1860, p. 92.
Unio virescens, Lea, pl. 55, fig. 166 341
Proc. Acad. Nat. Sci., 1858, p. 40.
Unio scitulus, Lea, pl. 55, fig. 167 342
Proc. Acad. Nat. Sci., 1860, p. 93.
Unio Johannis, Lea, pl. 55, fig. 168 343
Proc. Acad. Nat. Sci., 1859, p. 171.
Unio cacao, Lea, pl. 56, fig. 169 344
Proc. Acad. Nat. Sci., 1859, p. 154.
Unio linguæformis, Lea, pl. 56, fig. 170 345
Proc. Acad. Nat. Sci., 1860, p. 305.
Unio pudicus, Lea, pl. 56, fig. 171 346
Proc. Acad. Nat. Sci., 1860, p. 92.
Unio modicellus, Lea, pl. 57, fig. 172 347
Proc. Acad. Nat. Sci., 1859, p. 171.
Unio hepaticus, Lea, pl. 57, fig. 173 348
Proc. Acad. Nat Sci., 1859, p. 154.
Unio castus, Lea, pl. 57, fig. 174 349
Proc. Acad. Nat. Sci., 1860, p. 306.
Unio perpictus, Lea, pl. 58, fig. 175 350
Proc. Acad. Nat. Sci., 1860, p. 306.
Unio Lindsleyi, Lea, pl. 58, fig. 176 351
Proc. Acad. Nat. Sci., 1860, p. 306.
Unio Lesleyi, Lea, pl. 58, fig. 177 352
Proc. Acad. Nat. Sci., 1860, p. 306.
Unio fucatus, Lea, pl. 59, fig. 178 353
Proc. Acad. Nat. Sci., 1860, p. 92.
Unio planicostatus, Lea, pl. 59, fig. 179 354
Proc. Acad. Nat. Sci., 1860, p. 92.
Unio camelopardilis, Lea, pl. 59, fig. 180 355
Proc. Acad. Nat. Sci., 1860, p. 92.
Unio Rutersvillensis, Lea, pl. 60, fig. 181 356
Proc. Acad. Nat Sci., 1859, p. 155.
Unio Forsheyi, Lea, pl. 60, fig. 182 357
Proc. Acad. Nat. Sci., 1859, p. 155.

1860. LEA, ISAAC—Continued.

Unio Houstonensis, Lea, pl. 60, fig. 183 358
Proc. Acad. Nat. Sci., 1859, p. 155.
Unio Texasensis, Lea, pl. 61, fig. 184 359
Proc. Acad. Nat. Sci., 1857, p. 84, as *U. Texasiensis*.
Unio quadrans, Lea, pl. 61, fig. 185 360
Proc. Acad. Nat. Sci., 1860, p. 306.
Unio Bairdianus, Lea, pl. 61, fig. 186 361
Proc. Acad. Nat. Sci., 1857, p. 102.
Anodonta Lewisii, Lea, pl. 62, fig. 187 362
Proc. Acad. Nat. Sci., 1857, p. 84.
Anodonta lacustris, Lea, pl. 62, fig. 188 363
Proc. Acad. Nat. Sci., 1857, p. 84.
Anodonta modesta, Lea, pl. 63, fig. 189 364
Proc. Acad. Nat. Sci., 1857, p. 84.
Anodonta Danielsii, Lea, pl. 63, fig. 190 365
Proc. Acad. Nat. Sci., 1858, p. 139.
Anodonta Texasensis, Lea, pl. 63, fig. 191 366
Proc. Acad. Nat. Sci., 1859, p. 113.
Unio Eightsii, Lea, pl. 64, fig. 192 367
Proc. Acad. Nat. Sci., 1860, p. 306.
Unio cognatus, Lea, pl. 65, fig. 193 368
Proc. Acad. Nat. Sci., 1860, p. 306.
Unio Berlandieri, Lea, pl. 65, fig. 194 369
Proc. Acad. Nat. Sci., 1857, p. 101.
Unio Saladoensis, Lea, pl. 65, fig. 195 370
Proc. Acad. Nat. Sci., 1860, p. 305.
Unio Couchianus, Lea, pl. 66, fig. 196 371
Proc. Acad. Nat. Sci., 1860, p. 305.
Unio Popeii, Lea, pl. 66, fig. 197 372
Proc. Acad. Nat. Sci., 1857, p. 102.
Anodonta Henryana, Lea, pl. 66, fig. 198 373
Proc. Acad. Nat. Sci., 1857, p. 102, as *A. Henryiana*.

190.

1860. LEA, ISAAC. Observations | on the | Genus Unio, | together with | Descriptions of New Species, their Soft Parts, and Embryonic Forms, in | the Family Unionidæ. | Read before the Academy of Natural Sciences of Philadelphia, and | published in their Journal. | by | Isaac Lea, LL. D., | President of the Academy of Natural Sciences, Etc., Etc. | with sixteen plates. | Vol. 8.—Part I. | Philadelphia: | Printed for the Author. 4to. pp. 56.

This is the separate of No. 189, and with No. 204 forms No. 205.

191.

1860. LEA, ISAAC. Publications of Isaac Lea on Recent Conchology. 8°.

Copied from "Sabin's Bibliotheca Americana," and is probably a separate of part of "List of Amer. Writers on Recent Conchology," by Geo. W. Tryon, Jr. pp. 41-51.

192.

1861. LEA, ISAAC. Descriptions of Twenty-five New Species of Unionidæ from Georgia, Alabama, Mississippi, Tennessee and Florida. <*Proc. Acad. Nat. Sci., Phila.*, xiii, pp. 38–41.

Read before the Academy Natural Sciences February 5, 1861, and ordered to be published in the Proceedings Feb. 16, 1861. Proceedings for February laid on the table March 19, 1861. (See *Proc. Acad. Nat. Sci., Phila.*, xii, p. 56.) This forms part of No. 202.

Unio fabaceus, Lea, n. s 38
Oostanaula River, Georgia, Bishop Elliott.
Journ. Acad. Nat. Sci., v, 1862, p. 90.
Unio irrasus, Lea, n. s 38
Etowah River, Georgia, Rev. G. White.
Journ. Acad. Nat. Sci., v, 1862, p. 91.
Unio Ocmulgéensis, Lea, n. s 38
Little Ocmulgee River, Lumber City, Geo., S. W. Wilson, M. D.
Journ. Acad. Nat. Sci., v, 1862, p. 95.

1861. LEA, ISAAC—Continued.

Unio cicur, Lea, n. s 39
Little Ocmulgee River, Geo., S. W. Wilson, M. D.
Journ. Acad. Nat. Sci., v, 1862, p. 93.

Unio crapulus, Lea, n. s 39
Etowah River, Geo., Rev. G. White.
Journ. Acad. Nat. Sci., vi, 1866, p. 42.

Unio Beadleianus, Lea, n. s 39
Pearl River, Jackson, Miss., Rev. E. R. Beadle.
Journ. Acad. Nat. Sci., v, 1862, p. 94.

Unio Chickasawhensis, Lea, n. s 39
Chickasawha River, Miss., W. Spillman, M. D.
Journ. Acad. Nat. Sci., v, 1862, p. 101.

Unio cinnamonicus, Lea, n. s 39
Tombigbee River, Columbus, Miss., W. Spillman, M. D.
Journ. Acad. Nat. Sci., v. 1862, p. 100.

Unio pauperculus, Lea, n. s 39
Near Columbus, Miss., W. Spillman, M. D.
Journ. Acad. Nat. Sci., v, 1862, p. 99.

Unio Spillmanii, Lea, n. s 39
Luxpalila Creek, near Columbus, Miss., W. Spillman, M. D.
Journ. Acad. Nat. Sci., v, 1862, p. 98.

Unio flavidulus, Lea, n. s 39
Near Columbus, Miss., W. Spillman, M. D.
Journ. Acad. Nat. Sci., v, 1862, p. 97.

Unio anaticulus, Lea, n. s 40
Near Columbus, Miss., W. Spillman, M. D.
Journ. Acad. Nat. Sci., v, 1862, p. 92.

Unio rubidus, Lea, n. s 40
Tombigbee river, Miss., W. Spillman, M. D.; Coosa River and Big Prairie Creek, Alab., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1862, p. 95.

Unio decumbens, Lea, n. s 40
Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1862, p. 87.

Unio germanus, Lea, n. s 40
Coosa River, Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 49.

Unio Lewisii, Lea, n. s 40
Coosa River, Alab., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1862, p. 71.

Unio medius, Lea, n. s 40
Near Uniontown, Alab., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1862, p. 78.

Unio concolor, Lea, n. s 40
Big Prairie Creek, Alab., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1862, p. 89.

Unio verus, Lea, n. s 40
Cahawba River, Perry Co., Ala., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1862, p. 83.

Unio asperatus, Lea, n. s 41
Alabama River, Claiborne, Alab., Judge Tait.
Journ. Acad. Nat. Sci., v, 1862, p. 68.

Unio ornatus, Lea, n. s 41
Alabama? T. R. Ingalls, M. D.
Journ. Acad. Nat. Sci., v, 1862, p. 85.

Unio perpurpurens, Lea, n. s 41
Tennessee, J. G. Anthony.
Journ. Acad. Nat. Sci., vi, 1866, p. 46.

Unio Anthonyi, Lea, n. s 41
Florida, J. G. Anthony.
Journ. Acad. Nat. Sci., 1862, p. 197.

Margaritana quadrata, Lea, n. s 41
East Tennessee, President Estabrook.
Journ. Acad. Nat. Sci., v, 1862, p. 210.

1861. LEA, ISAAC—Continued.

Margaritana Alabamensis, Lea, n. s 41
Talladega Creek, Alab., W. Spillman, M. D.
Journ. Acad. Nat. Sci., v, 1862, p. 104.

193.

1861. LEA, ISAAC. Descriptions of new species of *Schizostoma*, *Anculosa*, and *Lithasia*. <*Proc. Acad. Nat. Sci., Phila.*, xiii, pp. 54–55.

In the minutes of the meeting of February 19, 1860 is the following:

"A paper was presented for publication, entitled 'Descriptions of new species of Anodonta and Lithasia, by Isaac Lea,' which was referred to a committee."

This probably refers to the present paper, which was ordered to be printed in the Proceedings February 26. Proceedings for February laid on the table March 19, 1861.

This forms part of No. 202. (See *Proc. Acad. Nat. Sci., Phila.*, xiii, p. 56.)

Schizostoma Spillmanii, Lea, n. s 54
Coosa River, Alab , Dr. Showalter.
Journ. Acad. Nat. Sci., v, 1863, p. 250.

Anculosa turbinata, Lea, n. s 54
North Alab., Prof. M. Tuomey and Dr. Lewis; Tuscaloosa, Dr. Budd.
Journ. Acad. Nat. Sci., v, 1863, p. 254.

Anculosa Lewisii, Lea, n. s 54
Tennessee, James Lewis, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 257.

Anculosa Coosaensis, Lea, n. s 54
Coosa River, Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 257.

Lithasia fusiformis, Lea, n. s 54
Coosa River, Alab., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 261.

Lithasia imperialis, Lea, n. s 55
North Alabama, Prof. Tuomey.
Journ. Acad. Nat. Sci., v, 1863, p. 258.

Lithasia Tuomeyi, Lea, n. s 55
North Alabama. Prof. M. Tuomey.
Journ. Acad. Nat. Sci., v, 1863, p. 259.

Lithasia subglobosa, Lea, n. s 55
Tennessee, Prof. G. Troost.
Journ. Acad. Nat. Sci., v, 1863, p. 261.

Lithasia dilatata, Lea, n. s 55
Tennessee, Prof. G. Troost.
Journ. Acad. Nat. Sci., v, 1863, p. 261.

194.

1861. LEA, ISAAC. Description of a new species of *Neritina*, from Coosa River, Alabama. <*Proc. Acad. Nat. Sci., Phila.*, xiii, p. 55.

Read before the Academy Natural Sciences, February 12, 1860, and ordered to be printed in the Proceedings Feb. 26, 1860. Proceedings for February laid on the table March 19, 1861. (See *Proc. Acad. Nat. Sci., Phila.*, xiii, p. 56.)

This forms part of No. 202.

Neritina Showalteri, Lea, n. s 55
Coosa River, ten miles above Fort William, Shelby Co., Alab., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 267.

"The discovery of this shell by Dr. Showalter marks the first notice of the genus Neritina being observed in our fresh waters."

195.

1861. LEA, ISAAC. Descriptions of two new species of *Anodontæ*, from Arctic America. <*Proc. Acad. Nat. Sci., Phila.*, xiii, p. 56.

Read before the Academy Natural Sciences, February 12, 1860, and ordered to be printed in the Proceedings February 26, 1861. Proceedings for Feb. laid on the table March 19, 1861. (See *Proc. Acad. Nat. Sci., Phila.*, xiii, p. 56.)

This forms part of No. 202.

1861. LEA, ISAAC—Continued.

Anodonta Kennicottii, Lea, n. s 56
Great Slave Lake at Fort Rae, and north end of Lake Winnipeg, Arctic America, R. Kennicott.
Journ. Acad. Nat. Sci., v, 1862, p. 214.

Anodonta Simpsoniana, Lea, n. s 56
Fort Rae, Great Slave Lake, Arctic America, R. Kennicott.
Journ. Acad. Nat. Sci., v, 1862, p. 212.

196.

1861. LEA, ISAAC. Descriptions of twelve new species of *Uniones*, from Alabama. <*Proc. Acad. Nat. Sci., Phila.*, xiii, pp. 59–60.

Read before the Academy Natural Sciences, March 5, 1860, and ordered to be published in the Proceedings March 26, 1861. Proceedings for March laid on the table April 2, 1861. (See *Proc. Acad. Nat. Sci., Phila.*, xiii, p. 73.)

This forms part of No. 202.

Unio negatus, Lea, n. s 59
Big Prairie Creek, Alab., E. R. Showalter, M. D.; Columbus, Miss., W. Spillman, M. D.
Journ. Acad. Nat. Sci., v, 1862, p. 76.

Unio glandaceus, Lea, n. s 59
Cahawba River, Alab., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1862, p. 77.

Unio instructus, Lea, n. s 59
Cahawba River, Alab., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1862, p. 82.

Unio trinacrus, Lea, n. s 59
Coosa River, Alab., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1862, p. 86.

Unio stabilis, Lea, n. s 59
Coosa River, Alab., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1862, p. 71.

Unio consanguineus, Lea, n. s 60
Etowah River, Rev. G. White; Oostenaula River, Georgia, Bishop Elliott; Cahawba River, Alab., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1862, p. 67.

Unio crebrivittatus, Lea, n. s 60
Coosawattee River, Alab., Bishop Elliott.
Journ. Acad. Nat. Sci., vi, 1866, p. 43.

Unio interventus, Lea, n. s 60
Cahawba River, Alab., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1862, p. 84.

Unio pallidofulvus, Lea, n. s 60
Cahawba River, Alab., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1862, p. 83.

Unio porphyreus, Lea, n. s 60
Coosa River, Alab., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1862, p. 80.

Unio perpastus, Lea, n. s 60
Coosa River, Alab., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1862, p. 69.

Unio granulatis, Lea, n. s 60
Big Prairie Creek, Alab., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 48, as *U. granulatus*.

197.

1861. LEA, ISAAC. Description of a new genus (*Strephobasis*) of the family *Melanidæ*, and three new species. <*Proc. Acad. Nat. Sci., Phila.*, xiii, p. 96.

Read before the Academy of Natural Sciences, April 16, 1860, and ordered to be published April 30, 1861. Proceedings for April laid on the table May 14, 1861. (See *Proc. Acad. Nat. Sci., Phila.*, xiii, p. 99.)

This forms part of No. 202.

STREPHOBASIS, Lea, n. g 96
Journ. Acad. Nat. Sci., v, 1863, p. 264.

1851. LEA, ISAAC—Continued

Strephobasis Spillmanii, Lea, n. s 96
Tennessee River, Wm. Spillman, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 264.

Strephobasis cornea, Lea, n. s 96
Tennessee River, Wm. Spillman, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 265.

Strephobasis Clarkii, Lea, n. s 96
Tennessee River, at Chattanooga, Tenn., Joseph Clark.
Journ. Acad. Nat. Sci., v, 1863, p. 265.

198.

1861. LEA, ISAAC. Descriptions of forty-nine New Species of the Genus Melania. <*Proc. Acad. Nat. Sci., Phila.*, xiii, pp. 117–123.

Read before the Academy Natural Sciences May 21, 1860, and ordered to be published in the Proceedings May 28, 1861. This forms part of No. 202.

Melania Hartmaniana, Lea, n. s 117
Coosa and Cahawba Rivers, Alab., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 218, as *Goniobasis Hartmani.*

Melania Lewisii, Lea, n. s 118
Coosa and Talapoosa Rivers, Alab., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 243, as *Goniobasis Lewisii.*

Melania elliptica, Lea, n. s 118
Coosa River, Alab., E. R. Showalter, M. D., and E. Foreman, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 225, as *Goniobasis elliptica.*

Melania rubicunda, Lea, n. s 118
Coosa River, Alab., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 235, as *Goniobasis rubicunda.*

Melania vesicula, Lea, n. s 118
Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 242, as *Goniobasis vesicula.*

Melania Coosaensis, Lea, n. s 118
Coosa River, Alab., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 234, as *Goniobasis Coosaensis.*

Melania gracilior, Lea, n. s 118
Coosa River, Alab., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 234, as *Goniobasis ellipsoides.*

Melania propria, Lea, n. s 118
Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 229, as *Goniobasis propria.*

Melania nubila, Lea, n. s 118
Coosa River, Wetumpka, Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 235, as *Goniobasis nubila.*

Melania orbicula, Lea, n. s 118
Coosa River, Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 238, as *Goniobasis orbicula.*

Melania calculoides, Lea, n. s 118
Coosa River, Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 238, as *Goniobasis calculoides.*

Melania punicea, Lea, n. s 119
Coosa River, Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 232, as *Goniobasis punicea.*

Melania luteola, Lea, n. s 119
Alabama River, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 230, as *Goniobasis lutcola.*

Melania fascinans, Lea, n. s 119
Yellowleaf Creek, Shelby Co., Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 229, as *Goniobasis fascinans.*

Melania quadrivittata, Lea, n. s 119
Coosa River, Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 226, as *Goniobasis quadrivittata.*

Melania midas, Lea, n. s 119
Coosa and Alabama Rivers, near Wetumpka, E. R. Showalter.
Journ. Acad. Nat. Sci., v, 1863, p. 233, as *Goniobasis midas.*

1861. LEA, ISAAC—Continued.

Melania variata, Lea, n. s 119
Coosa River, at Wetumpka and Montevallo, Bibb Co., Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 224, as *Goniobasis variata.*

Melania virgulata, Lea, n. s 119
Coosa and Tallapoosa Rivers, Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 223, as *Goniobasis virgulata.*

Melania mucronata, Lea, n. s 119
Big Prairie Creek, Alab., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 277, as *Trypanostoma mucronata.*

Melania propinqua, Lea, n. s 119
Coosa and Cahawba Rivers, Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 234, as *Goniobasis propinqua.*

Melania suavis, Lea, n. s 120
Coosa River, Alab., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 228, as *Goniobasis suavis.*

Melania fallax, Lea, n. s 120
Coosa River, Alab., E. R. Showalter, M. D.
Journ Acad. Nat. Sci., v, 1863, p. 231, as *Goniobasis fallax.*

Melania clausa, Lea, n. s 120
Coosa River, Alab., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 231, as *Goniobasis clausa.*

Melania purpurea, Lea, n. s 120
Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 225, as *Goniobasis purpurea.*

Melania mellea, Lea, n. s 120
Coosa River, at Wetumpka, Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 224, as *Goniobasis mellea.*

Melania varians, Lea, n. s 120
Coosa River, Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 219, as *Goniobasis varians.*

Melania Showalterii, Lea, n. s 120
Coosa and Cahawba Rivers, Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 220, as *Goniobasis Showalterii.*

Melania glandaria, Lea, n. s 120
Coosa River, Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 226, as *Goniobasis glandaria.*

Melania pudica, Lea, n. s 120
Yellowleaf Creek, Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 222, as *Goniobasis pudica.*

Melania Shelbyensis, Lea, n. s 121
Yellowleaf Creek, Alab., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 228, as *Goniobasis Shelbyensis.*

Melania Alabamensis, Lea, n. s 121
Coosa River, Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 232, as *Goniobasis Alabamensis.*

Melania rara, Lea, n. s 121
Coosa River, Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 220, as *Goniobasis rara.*

Melania bullula, Lea, n. s 121
Yellowleaf Creek, Shelby Co., Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 221, as *Goniobasis bullula.*

Melania straminea, Lea, n. s 121
Coosa River, Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 227, as *Goniobasis straminea.*

Melania solidula, Lea, n. s 121
Yellowleaf Creek, near Coosa River, Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 230, as *Goniobasis solidula.*

Melania Cahawbensis, Lea, n. s 121
Cahawba River, Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 223, as *Goniobasis Cahawbensis.*

Melania culta, Lea, n. s 121
Coosa River, Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 237, as *Goniobasis culta.*

1861. LEA, ISAAC—Continued.

Melania lita, Lea, n. s 121
Cahawba River, Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 239, as *Goniobasis lita.*

Melania copiosa, Lea, n. s 122
Coosa River, Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 239, as *Goniobasis copiosa.*

Melania pergrata, Lea, n. s 122
Coosa River, Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 243, as *Goniobasis pergrata.*

Melania bellula, Lea, n. s 122
Yellowleaf Creek, Shelby Co., Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 237, as *Goniobasis bellula.*

Melania æqua, Lea, n. s 122
Yellowleaf Creek, Alab., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 240, as *Goniobasis æqua.*

Melania capillaris, Lea, n. s 122
Coosa River, Alabama, E. R. Showalter, M. D., and Wm. Spillman, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 236, as *Goniobasis capillaris.*

Melania gratiosa, Lea, n. s 122
Coosa River, Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 241, as *Goniobasis gratiosa.*

Melania paula, Lea, n. s 122
Cahawba River, Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 244, as *Goniobasis paula.*

Melania blanda, Lea, n. s 122
Yellowleaf Creek, Alab., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 242, as *Goniobasis blanda.*

Melania crepera, Lea, n. s 123
Yellowleaf Creek, Shelby Co., Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 240, as *Goniobasis crepera.*

Melania fumea, Lea, n. s 123
Yellowleaf Creek, Shelby Co., Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 222, as *Goniobasis fumea.*

Melania propria, Lea, n. s 123
Yellowleaf Creek, Shelby Co., Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 227, as *Goniobasis lepida.*

199.

1861. LEA, ISAAC. Descriptions of New Fossil Mollusca, from the Cretaceous Formation at Haddonfield, New Jersey. <*Proc. Acad. Nat. Sci., Phila.*, xiii, pp. 148–150.

Read before the Academy Natural Sciences June 4, 1861, and ordered to be published in the Proceedings June 25, 1861. This forms part of No. 202.

Preliminary remarks upon the Geological position of the Green Sand Formation at Haddonfield, New Jersey 148

Corbula Foulkei, Lea, n. s 149

Modiola Juliæ, Lea, n. s 149

Dosinia Haddonfieldensis, Lea, n. s 149

List of Green Sand Fossils found at Haddonfield, N. J., by Mr. Foulke and Mr. Lea 43 species 150

200.

1861. LEA, ISAAC. Descriptions of Eleven New Species of the genus Unio from the United States. <*Proc. Acad. Nat. Sci., Phila.*, xiii, pp. 391–393.

Read before the Academy of Natural Sciences December 24, 1861, and ordered to be published in the Proceedings Dec. 31, 1861. This forms part of No. 202.

Unio squamcus, Lea, n. s 391
North Carolina, J. G. Anthony.
Journ. Acad. Nat. Sci., v, 1862, p. 200.

Unio rostrum, Lea, n. s 391
Davidson Co., N. Carolina, F. A. Genth, M. D.
Journ. Acad. Nat. Sci., v, 1862, p. 201.

1861. LEA, ISAAC—Continued.

Unio contiguus, Lea, n. s. 392
Stewart's Mill Dam, Union Co., N. Carolina, F. A. Genth, M. D.
Journ. Acad. Nat. Sci., v, 1862, p. 199.

Unio Riddellii, Lea, n. s 392
Dallas, Texas, Prof. C. G. Forshey.
Journ. Acad. Nat. Sci., v, 1862, p. 198.

Unio Chunii, Lea, n. s 392
Dallas, Texas, Prof. C. G. Forshey.
Journ. Acad. Nat. Sci., v, 1862, p. 196.

Unio Heermannii, Lea, n. s. 392
Medina River, Texas, A. L. Heermann, M. D.
Journ. Acad. Nat. Sci., v, 1862, p. 194.

Unio tesserulæ, Lea, n. s 392
Nolachucky River, Tenn., J. G. Anthony.
Journ. Acad. Nat. Sci., vi, 1866, p. 40.

Unio Northamptonensis, Lea, n. s 392
Connecticut River, at Northampton; at Springfield, by L. Shurtleff, M. D.; below Hartford, T. R. Ingalls, M. D.; Neuse River, N. C., E. Emmons, M. D.
Journ. Acad. Nat. Sci., v, 1862, p. 190.

Unio Wardii, Lea, n. s. 392
Walhonding River, Ohio, J. C. Ward; Wassepinicon River, Iowa, Dr. Foreman; Coal River, Virginia, Dr. Hartman.
Journ. Acad. Nat. Sci., v, 1862 p. 187.

Unio Sampsonii, Lea, n. s 392
Wabash River, New Harmony, Indiana, James Sampson.
Journ. Acad. Nat. Sci., v, 1862, p. 192.

Unio vestitus, Lea, n. s. 393
Ogechee River, Georgia, Major Le Conte and J. G. Anthony.
Journ. Acad. Nat. Sci., v, 1862, p. 189.

201.

1861. LEA, ISAAC. Description of Seven New Species of the Genus Io. <*Proc. Acad. Nat. Sci., Phila.*, xiii, pp. 393-394.

Read before the Academy of Natural Sciences December 24, 1861, and ordered to be printed in the Proceedings Dec. 31, 1861. This forms part of No. 202.

Short outline history of the Genus Io 393

Io nodosa, Lea, n. s 393
Tennessee River, Alab., ? Wm. Spillman, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 346.

Io robusta, Lea, n. s. 393
Tennessee River, Alab., ? Wm. Spillman, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 346.

Io variabilis, Lea, n. s. 393
Tennessee River, Alab., ? Wm. Spillman, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 347.

Io modesta, Lea, n. s 394
Tennessee River, Alab., ? Wm. Spillman, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 348.

Io Spillmanii, Lea, n. s. 394
Tennessee River, Alab., ? Wm. Spillman, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 348.

Io gracilis, Lea, n. s 394
Coosa River, Alabama, Wm. Spillman, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 349.

Io viridula, Lea, n. s 394
Coosa River, Alabama, Wm. Spillman, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 349.

202.

1862. LEA, ISAAC. Remarks on the Number of Unionidæ. | Descriptions of Fifteen new species of Uruguayan Unionidæ. | Descriptions of Four new species of Unionidæ, | from Brazil and Buenos Ayres. | Remarks on the Color of the Unionidæ. | Descriptions of Four new species of Melaniæ | of the United

1862. LEA, ISAAC—Continued.

States. | Descriptions of Five new species of Unionea, | from North America. | Remarks on the form of the Palpi of Anodontæ, | from Uruguay. | Remarks on the Physæ in a Cistern. | Remarks on Echinus perforating Granite. | Descriptions of Fourteen new species of Schi | zostoma, &c., and reclamation of the name. | Descriptions of two new species of Unionea, | from Georgia. | Descriptions of Three new species of Unionea, | from Mexico. | Descriptions of Seven new species of Unionidæ, | from the United States. | Descriptions of Six new species of Unionidæ, | from Alabama. | Descriptions of Three new species of Exotic Unionidæ. | Descriptions of Twenty-five new species of Unionidæ. | Description of a New Species of Neritina, | from Coosa River. | Descriptions of Two new species of Anodontæ, | from Arctic America. | Descriptions of New Species of Schizostoma, &c. | Descriptions of Twelve new species of Unionea, | from Alabama. | Description of a New Genus, (Strephobasis.) | Descriptions of Forty-nine new species of Melaniæ. | Descriptions of New Fossil Mollusca, | from New Jersey. | Descriptions of Eleven new species of the genus Unio. | Descriptions of Seven new species of the genus Io. | — | by | Isaac Lea, LL.D., &c., &c. | — | Philadelphia: | 1862. 8°, pp. 49.

This consists of a reprint of numbers 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201.

203.

1861. LEA, ISAAC. New Unionidæ of the United States. <*Journ. Acad. Nat. Sci.*, v, new series, pp. 53–109. Plates i–xviii. For separate see No. 204.

Read before the Academy of Natural Sciences November 12, 1861. Extra copies printed for the author February, 1862. (See *Journ. Acad. Nat. Sci., Phila.*, v, n. s., p. 3.)

Unio insulsus, Lea, pl. i, fig. 199 53
Proc. Acad. Nat. Sci., 1857, p. 86.

Unio Catawbensis, Lea, pl. i, fig. 200 54
Proc. Acad. Nat. Sci., 1857, p. 85, as *U. Wheatleyi*.

Unio spadiceus, Lea, pl. i, fig. 201 55
Proc. Acad. Nat. Sci., 1857, p. 86.

Unio striatulus, Lea, pl. ii, fig. 202 55
Proc. Acad. Nat. Sci., 1857, p. 86.

Unio Emmonsii, Lea, pl. ii, fig. 203 56
Proc. Acad. Nat. Sci., 1857, p. 86.

Unio Genthii, Lea, pl. 2, fig. 204 57
Proc. Acad. Nat. Sci., 1857, p. 85.

Unio gracilentus, Lea, pl. 3, fig. 205 58
Proc. Acad. Nat. Sci., 1857, p. 85.

Unio percoarctatus, Lea, pl. 3, fig. 206 59
Proc. Acad. Nat. Sci., 1857, p. 85.

Unio micans Lea, pl. 3, fig. 207 59
Proc. Acad. Nat. Sci., 1857, p. 85.

Unio Neusensis, Lea, pl. 4, fig. 208 60
Proc. Acad. Nat. Sci., 1858, p. 41.

Unio purus, Lea, pl. 4, fig. 209 61
Proc. Acad. Nat. Sci., 1858, p. 41.

Unio exactus Lea, pl. 4, fig. 210 62
Proc. Acad. Nat. Sci., 1858, p. 41.

Unio turgidulus, Lea, pl. 5, fig. 211 62
Proc. Acad. Nat. Sci., 1858, p. 40.

Unio propinquus, Lea, pl. 5, fig. 212 63
Proc. Acad. Nat. Sci., 1857, p. 83.

Unio Florentinus, Lea, pl. 5, fig. 213 64
Proc. Acad. Nat. Sci., 1857, p. 83.

Unio Meredithii, Lea, pl. 6, fig. 214 65
Proc. Acad. Nat. Sci., 1858, p. 40.

Unio perradiatus, Lea, pl. 6, fig. 215 66
Proc. Acad. Nat. Sci., 1858, p. 40.

Unio Pybasii. Lea, pl. 6, fig. 216 67
Proc. Acad. Nat. Sci., 1858, p. 40.

1861. LEA, ISAAC—Continued.

Unio consanguineus, Lea, pl. 7, fig. 217 67
Proc. Acad. Nat. Sci., 1861, p. 60.
Unio asperatus, Lea, pl. 7, fig. 218 68
Proc. Acad. Nat. Sci., 1861, p. 41.
Unio perpastus, Lea, pl. 7, fig. 219 69
Proc. Acad. Nat. Sci., 1861, p. 60.
Unio Lewisii, Lea, pl. 8, fig. 220 71
Proc. Acad. Nat. Sci., 1861, p. 40.
Unio stabilis, Lea, pl. 8, fig. 221 71
Proc. Acad. Nat. Sci., 1861, p. 59.
Unio Hartmanianus, Lea, pl. 8, fig. 222 78
Proc. Acad. Nat. Sci., 1860, p. 307.
Unio Showalterii, Lea, pl. 8, fig. 223 73
Proc. Acad. Nat. Sci., 1860, p. 307.
Unio dolosus, Lea, pl. 9, fig. 224 75
Proc. Acad. Nat. Sci., 1860, p. 307.
Unio negatus, Lea, pl. 9, fig. 225 76
Proc. Acad. Nat. Sci., 1861, p. 59.
Unio glandaceus, Lea, pl. 9, fig. 226 77
Proc. Acad. Nat. Sci., 1861, p. 59.
Unio medius, Lea, pl. 10. fig. 227 78
Proc. Acad. Nat. Sci., 1861, p. 40.
Unio porphyreus, Lea, pl. 10, fig. 228 80
Proc. Acad. Nat. Sci., 1861, p. 60.
Unio planeus, Lea, pl. 10, fig. 229 81
Proc. Acad. Nat. Sci., 1860, p. 307.
Unio instructus, Lea, pl. 10, fig. 230 82
Proc. Acad. Nat. Sci., 1861, p. 59.
Unio verus, Lea, pl. 11, fig. 231 83
Proc. Acad. Nat. Sci., 1861, p. 40.
Unio pallidofulvus, Lea, pl. 11, fig. 232 83
Proc. Acad. Nat. Sci., 1861, p. 60.
Unio interventus, Lea, pl. 11, fig. 233 84
Proc. Acad. Nat. Sci., 1861, p. 60.
Unio ornatus, Lea, pl. 11, fig. 234 85
Proc. Acad. Nat. Sci., 1861, p. 41.
Unio trinacrus, Lea, pl. 12, fig. 235 86
Proc. Acad. Nat. Sci., 1861, p. 59.
Unio decumbens, Lea, pl. 12, fig. 236 87
Proc. Acad. Nat. Sci., 1861, p. 40.
Unio concolor, Lea, pl. 12, fig. 237 89
Proc. Acad. Nat. Sci., 1861, p. 40.
Unio fabaceus, Lea, pl. 13, fig. 238 90
Proc. Acad. Nat. Sci., 1861, p. 38.
Unio irrasus, Lea, pl. 13, fig. 239 91
Proc. Acad. Nat. Sci., 1861, p. 38.
Unio anaticulus, Lea, pl. 13, fig. 240 92
Proc. Acad. Nat. Sci., 1861, p. 40.
Unio cicur, Lea, pl. 13, fig. 241 93
Proc. Acad. Nat. Sci., 1861, p. 39.
Unio Beadleianus, Lea, pl. 14, fig. 242 94
Proc. Acad. Nat. Sci., 1861, p. 39.
Unio Ocmulgeensis, Lea, pl. 14, fig. 243 95
Proc. Acad. Nat. Sci., 1861, p. 38.
Unio rubidus, Lea, pl. 14, fig. 244 95
Proc. Acad. Nat. Sci., 1861, p. 40.
Unio flavidulus, Lea, pl 15, fig. 245 97
Proc. Acad. Nat. Sci., 1861, p. 39.
Unio Spillmanii, Lea, pl. 15, fig. 246 98
Proc. Acad. Nat. Sci, 1861, p. 39.
Unio pauperculus, Lea, pl. 15, fig. 247 99
Proc. Acad. Nat. Sci., 1861, p. 39
Unio cinnamonicus, Lea, pl. 16, fig. 248 100
Proc. Acad. Nat. Sci., 1861, p. 39.
Unio Chickasawhensis, Lea, pl. 16, fig. 250 101
Proc. Acad. Nat. Sci., 1861, p. 39.

1861. LEA, ISAAC—Continued.

Unio permiscens, Lea, pl. 17, fig. 251 102
Proc. Acad. Nat. Sci., 1859, p. 112.

Unio curtus, Lea pl. 17, fig. 253 103
Proc. Acad. Nat. Sci., 1859, p. 112.

Margaritana Alabamensis, Lea, pl. 16, fig. 249 104
Proc. Acad. Nat. Sci., 1861, p. 41.

Margaritana Spillmanii, Lea, pl. 17, fig. 252 105
Proc. Acad. Nat. Sci., 1858, p. 138.

Margaritana elliptica, Lea, pl. 18, fig. 254 106
Proc. Acad. Nat. Sci., 1859, p. 113.

Margaritana Tombigbeensis, Lea, pl. 18, fig. 255 107
Proc. Acad. Nat. Sci., 1858, p. 138, as *M. Tombecbeensis*.

Anodonta Kennerlyi, Lea, pl. 18, fig. 256 108
Proc. Acad. Nat. Sci., 1860, p. 306.

204.

1862. LEA, ISAAC. Observations | on the | Genus Unio, | together with | Descriptions of New Species, their Soft Parts, and Embryonic Forms, in | the Family Unionidæ. | Read before the Academy of Natural Sciences of Philadelphia and | published in their Journal. | by | Isaac Lea, LL.D., | President of the Academy of Natural Sciences of Philadelphia, Etc., Etc. | with eighteen plates. | Vol. 8.—Part II. | Philadelphia: | Printed for the author. 4°, pp. 57–113.

This is the separate of No. 203, and, with No. 190, forms No. 205.

Presented to the Library of the Academy of Natural Sciences in 1862. (See *Proc. Acad. Nat. Sci.*, xiv, p. 612.)

205.

1862. LEA, ISAAC. Observations | on the | Genus Unio, | together with | Descriptions of New Species, their Soft Parts, and Embryonic Forms, in | the Family Unionidæ. | Read before the Academy of Natural Sciences of Philadelphia and | published in their Journal. | by | Isaac Lea, LL. D. | President of the Academy of Natural Sciences of Philadelphia, Etc., Etc. | with thirty-four plates. | Vol. 8. | Philadelphia: | Printed for the author. 4to, pp. 115.

This consists of numbers 190 and 204.

206.

1862. LEA, ISAAC. Descriptions of Ten new species of Unionidæ of the United States. <*Proc. Acad. Nat. Sci., Phila.*, xiv, pp. 168–169.

Read before the Academy of Natural Sciences April 22, 1862, and ordered to be printed in the Proceedings April 29, 1862. This forms part of No. 211.

Unio grandidens, Lea, n. s 168
Near Hot Springs, Ark., Byrd Powell, M. D.
Journ. Acad. Nat. Sci., 1862, p. 205.

Unio speciosus, Lea, n. s 168
Colorado River, near Lagrange, Texas, Prof. Forshey; and Leon Co., Texas, Lieut. E. F. Beale.
Journ. Acad. Nat. Sci., v, 1862, p. 207.

Unio Leibii, Lea, n. s 168
Erie Co., Michigan, G. B. Leib, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 44.

Unio Gerhardtii, Lea, n. s 168
Chattanooga, Geo., Alexander Gerhardt.
Journ. Acad. Nat. Sci., v, 1862, p. 208.

Unio Mercerii, Lea, n. s 169
Lee Co., Georgia, Dr. Mercer.
Journ. Acad. Nat. Sci., v, 1862, p. 209.

Unio Arkansasensis, Lea, n. s 169
Near Hot Springs, Ark., Byrd Powell, M. D.
Journ. Acad. Nat. Sci., v, 1862, p. 206.

Unio Bealei, Lea, n. s 169
Leon Co., Texas, Lieut. E. F. Beale, U S. Navy; Rutersville, Texas, Prof. Forshey.
Journ. Acad. Nat. Sci., v, 1862, p. 204.

1862. LEA, ISAAC—Continued.

Anodonta leonensis, Lea, n. s. 169
Leon Co., Texas, Lieut. E. F. Beale, U. S. Navy.
Journ. Acad. Nat. Sci., vi, 1866, p. 25.

Anodonta Wilsiamsii, Lea, n. s 169
Potomac River, at the White House below Mt. Vernon, H. C. Williams.
Journ. Acad. Nat. Sci., vi, 1866, p. 27.

Anodonta Tryonii, Lea, n. s 169
Schuylkill River, above Phila.; Delaware River, at League Island, G. W. Tryon, jr.; Flemington, Conn., Prof. Shepard; Westfield, Mass., Dr. Shurtleff; Potomac near Chain Bridge, above Washington, Prof. Henry.
Journ. Acad. Nat. Sci., vi, 1866, p. 28.

207.

1862. LEA, ISAAC. Description of a New Genus (Trypanostoma), of the Family Melanidæ, and of forty-five New Species. <*Proc. Acad. Nat. Sci., Phila.*, xiv, pp. 169–175.

Read before the Academy of Natural Sciences April 15, 1862, and ordered to be published in the Proceedings April 29, 1862. This forms part of No. 211.

TRYPANOSTOMA, Lea, n. g 169
Τρυπανον, an auger, and στόμα, a mouth.
Journ. Acad. Nat. Sci., v, 1863, p. 268.
"The genus now proposed, under the name of *Trypanostoma*, will include all the well-known *Melaniæ* with an *auger-shaped* aperture, the type of which may be considered Mr. Say's *Melania canaliculata*, a common and well-known species from the basin of the Ohio River."
"Mr. Swainson, in his 'Treatise on Malacology,' proposed a sub-genus of *Melania* under the name of *Ceriphasia*, and gives a figure, page 204 (*C. sulcata*), stating it came from Ohio. It is evident, on looking on this figure, that it does not represent any Ohio species, neither in the aperture nor in the revolving ribs. Dr. Gray and the Messrs. Adams adopt the genus, and the latter give a figure (pl. 31, fig. 6) of *canaliculata*, Say, as the type, which I do not think answers to the description or figure of Mr. Swainson."

Trypanostoma dux, Lea, n. s 170
Tennessee River, W. Spillman, M. D.; Fox River, Ill., J. Sampson; Oostenaula, Rev. G. White; Tuscumbia, B. Pybas.
Journ. Acad. Nat. Sci., v, 1863, p. 283.

Trypanostoma Thortonii, Lea, n. s 170
Tuscumbia, Ala., L. B. Thorton, Esq., and Rev. G. White; Chattanooga, Tenn., J. Clark.
Journ. Acad. Nat. Sci., v, 1863, p. 284, as *T. Thorntonii*.

Trypanostoma Troostii, Lea, n. s 171
Tenn., Prof. G. Troost; Florence, Ala., Rev. G. White; Oostenaula River, Ga., Bishop Elliott; Fox River, near New Harmony, Indiana, J. Sampson.
Journ. Acad. Nat. Sci., v, 1863, p. 285.

Trypanostoma incurvum, Lea, n. s 171
Florence, Ala., Rev. G. White.
Journ. Acad. Nat. Sci., v, 1863, p. 286.

Trypanostoma Postellii, Lea, n. s 171
Tennessee River, J. Postell; N. Ala., Prof. Tuomey.
Journ. Acad. Nat. Sci., v, 1863, p. 286.

Trypanostoma Tuomeyi, Lea, n. s 171
North Ala., Prof. Tuomey; Florence, Ala., Rev. G. White.
Journ. Acad. Nat. Sci., v, 1863, p. 287.

Trypanostoma Florencense, Lea, n. s 171
Florence, Ala., Dr. Spillman; Tuscumbia, L. B. Thornton, Esq.
Journ. Acad. Nat. Sci., v, 1863, p. 287.

Trypanostoma Clarkii, Lea, n. s 171
French, Broad, and Tellico Creeks, Tenn., J. Clark and Prof. Christy; Florence, Ala., G. White; Noxubee River, Miss., Dr. Spillman; Clinch River, Tenn., Dr. Warder; Coosa, Cahawba, and Alabama Rivers Ala., Dr. Showalter.
Journ. Acad. Nat. Sci., v, 1863, p. 285.

Trypanostoma Alabamense, Lea, n. s 171
N. Alabama, Prof. Tuomey; Florence, Ala., Rev. G. White.
Journ. Acad. Nat. Sci., v, 1863, p. 288.

1862. LEA, ISAAC—Continued.

Trypanostoma ligatum, Lea, n. s 171
Tenn., Prof. Troost; Cumberland River, C. T. Downie; North Ala., Prof. Tuomey; Ohio River, at Cincinnati, U. P. James.
Journ. Acad. Nat. Sci., v, 1863, p. 288.

Trypanostoma Pybasii, Lea, n. s 172
Tuscumbia, Ala., B. Pybas.
Journ. Acad. Nat. Sci., v, 1863, p. 289.

Trypanostoma olivaceum, Lea, n. s 172
Tombigbee River, Miss., W. Spillman, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 290.

Trypanostoma moniliferum, Lea, n. s 172
Tenn., Prof. Troost and Mr. Anthony; Florence, Ala., Rev. G. White, Mr. Pybas, and Mr. Thornton; Cumberland River, Dr. Powell; Ohio River, near the mouth, in Illinois, J. Donaldson; New Harmony, Indiana, Mr. Carley and Mr. Sampson; Warrior River, Ala., Prof. Brumby.
Journ. Acad. Nat. Sci., v. 1863, p. 295.

Trypanostoma Lewisii, Lea, n. s. 172
Peoria, Illinois, J. Lewis, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 292.

Trypanostoma moriformi, Lea, n. s 172
Oostenaula River, near Rome, Ga., Rev. G. White; Tenn. River, Dr. Spillman; Tuscumbia, Ala., B. Pybas.
Journ. Acad. Nat. Sci., v, 1863, p. 290, as T. *moriforme*.

Trypanostoma viride, Lea, n. s 172
Tennessee, Prof. Troost.
Journ. Acad. Nat. Sci., v, 1863, p. 291.

Trypanostoma Showalterii, Lea, n. s 172
Cahawba River, Ala., E. R. Showalter, M. D.; Tuscaloosa, Ala., Dr. Budd; Oostenaula River, Ga., Rev. G. White and Bishop Elliott.
Journ. Acad. Nat. Sci., v, 1863, p. 293.

Trypanostoma Anthonyi, Lea, n. s 172
Tennessee, J. G. Anthony; Warrior River and Yellowleaf Creek, Ala., Dr. Showalter; Fox River, Indiana, J. Sampson.
Journ. Acad. Nat. Sci., v, 1863, p. 293.

Trypanostoma striatum, Lea, n. s. 173
Florence, Ala., B. Pybas.
Journ. Acad. Nat. Sci., v, 1863, p. 294.

Trypanostoma Hartmanni, Lea, n. s 173
Cahawba and Coosa Rivers, Dr. Showalter; Warrior River, Ala., Knoxville, Dr. Budd and J. Clark; Tenn. River, Ala., Dr. Spillman.
Journ. Acad. Nat. Sci., v, 1863, p. 270.

Trypanostoma Jayi, Lea, n. s. 173
Hab.— ——, Ala.? J. C. Jay, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 270.

Trypanostoma Spillmanii, Lea, n. s 173
Noxubee River, Miss., W. Spillman, M. D.; Tennessee, J. Clark.
Journ. Acad. Nat. Sci., v, 1863, p. 271.

Trypanostoma Chrystyi, Lea, n. s. 173
Cane Creek, Tenn., Prof. D. Christy.
Journ. Acad. Nat. Sci., v, 1863, p. 272.

Trypanostoma labiatum, Lea, n. s 173
Big Miami River, Ohio, J. Clark.
Journ. Acad. Nat. Sci., v, 1863, p. 272.

Trypanostoma Whitei, Lea, n. s 173
Lafayette Co. and Marietta, Ga., Rev. G. White; Farland's Creek, Miss., Dr. Spillman; Tennessee, J. G. Anthony.
Journ. Acad. Nat. Sci., v, 1863, p. 273.

Trypanostoma Estabrookii, Lea, n. s 173
East Tennessee, President Estabrook and Bishop Elliott; near Cleveland, Tenn., Prof. Christy; Monroe Co., Tenn., J. Clark.
Journ. Acad. Nat. Sci., v, 1863, p. 273.

Trypanostoma Knoxvillense, Lea, n. s 173
Knoxville, Tenn., Pres. Estabrook.
Journ. Acad. Nat. Sci., v, 1863, p. 274.

1862. LEA, ISAAC—Continued.

Trypanostoma attenuatum, Lea, n. s. 174
Lafayette, Ga., Rev. G. White; Tennessee, Dr. Hartman.
Journ. Acad. Nat. Sci., v, 1863, p. 274.

Trypanostoma subulæforme, Lea, n. s 174
Knoxville, Tenn., Prof. Troost and W. Spillman, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 289.

Trypanostoma tortum, Lea, n. s 174
Uchee Bar, below Columbus, Ga., J. Lewis, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 275.

Trypanostoma pallidum, Lea, n. s 174
Niagara Falls, New York.
Journ. Acad. Nat. Sci., v, 1863, p. 275.

Trypanostoma parvum, Lea, n. s 174
Knoxville, Pres. Estabrook; French Broad River, East Tenn., J. Clark.
Journ. Acad. Nat. Sci., v, 1863, p. 276.

Trypanostoma modestum, Lea, n. s 174
Chilogita Creek, Blount Co., Tenn., J. Clark.
Journ. Acad. Nat. Sci., v, 1863, p. 276.

Trypanostoma simplex, Lea, n. s 174
Cincinnati, Ohio, T. G. Lea.
Journ. Acad. Nat. Sci., v, 1863, p. 277.

Trypanostoma minor, Lea, n. s 174
Tennessee, Prof. Troost.
Journ. Acad. Nat. Sci., v, 1863, p. 278.

Trypanostoma pumilum, Lea, n. s 174
Tennessee, Prof. Troost.
Journ. Acad. Nat. Sci., v, 1863, p. 279.

Trypanostoma bivittatum, Lea, n. s 175
Tennessee, Prof. Troost.
Journ. Acad. Nat. Sci., v, 1863, p. 279.

Trypanostoma Vanuxemii, Lea, n. s 175
S. Carolina, Prof. L. Vanuxem.
Journ. Acad. Nat. Sci., v, 1863, p. 280.

Trypanostoma trivittatum, Lea, n. s 175
Tombigbee River, Miss., W. Spillman, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 282.

Trypanostoma trochulus, Lea, n. s 175
Holston River, Tenn., Prof. G. Troost.
Journ. Acad. Nat. Sci., v, 1863, p. 282.

Trypanostoma Sycamorense, n. s 175
Sycamore, Claiborne Co., E. Tenn., J. Lewis, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 283.

Trypanostoma Chakasahaense, Lea, n. s 175
Chakasaka River, Ala., Wm. Spillman, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 280.

Trypanostoma Tennesseense, Lea, n. s 175
Tenn., Prof. Troost; Lebanon Co., Tenn., J. M. Safford.
Journ. Acad. Nat. Sci., v, 1863, p. 281.

Trypanostoma Knoxense, Lea, n. s 175
Flat Creek, Knox Co., Tenn., Prof. D. Christy.
Journ. Acad. Nat. Sci., v, 1863, p. 281.

Trypanostoma canalitium, Lea, n. s 175
Yellowleaf Creek, Ala., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 292.

208.

1862. LEA, ISAAC. Descriptions of two new species of *Exotic Uniones* and one *Monocondylœa*. <*Proc. Acad. Nat. Sci., Phila.*, xiv, p. 176.

Read before the Academy of Natural Sciences April 22, 1862, and ordered to be published in the Proceedings April 29, 1862.

This forms part of No. 211.

Unio Paramattensis, Lea, n. s 176
Paramatta River, New South Wales. Smithsonian Institution.
Journ. Acad. Nat. Sci., vi, 1866, p. 60.

1862. LEA, ISAAC—Continued.

Unio Pazii, Lea, n. s 176
China, Sig. Patricio Maria Paz.
Journ. Acad. Nat. Sci., vi, 1866, p. 61.

Monocondylæa Wheatleyi, Lea, n. s 176
River Tigris, Assyria, Rev. Mr. Beadle, by C. M. Wheatley.
Journ. Acad. Nat. Sci., v, 1863, p. 399.

209.

1862. LEA, ISAAC. Description of a new genus (GONIOBASIS) of the Family *Melanidæ* and eighty-two new species. <*Proc. Acad. Nat. Sci., Phila.*, xiv, pp. 262–272.

Read before the Academy May 27, 1862. Ordered to be published in the Proceedings May 27, 1862.

This forms part of No. 211.

GONIOBASIS, Lea, n. g 262
Τωνια, angle, and βαοις, base.

List of, and key to, the Genera of American Melanidæ 263

Goniobasis osculata, Lea, n. s 263
Coosa River, Ala., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 296.

Goniobasis Brumbyi, Lea, n. s 263
Alabama, Prof. Brumby.
Journ. Acad. Nat. Sci., v, 1863, p. 296.

Goniobasis Grosvenorii, Lea, n. s 263
Fox River, Illinois, H. C. Grosvenor; Quincy, Ohio, J. Clark.
Journ. Acad. Nat. Sci., v, 1863, p. 297.

Goniobasis parva, Lea, n. s 264
Georgia, Right Rev. Stephen Elliott.
Journ. Acad. Nat. Sci., v, 1863, p. 297.

Goniobasis spinella, Lea, n. s 264
Sycamore, Claiborne Co., Tenn., J. Lewis, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 298.

Goniobasis Estabrookii, Lea, n. s 264
Knoxville, Tenn , Prof. Estabrook.
Journ. Acad. Nat. Sci., v, 1863, p. 298.

Goniobasis Prairiensis, Lea, n. s 264
Big Prairie Creek, Ala., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 299.

Goniobasis Etowahensis, Lea, n. s 264
Etowah River, Georgia, J. Postell.
Journ. Acad. Nat. Sci., v, 1863, p. 299.

Goniobasis Draytonii, Lea, n. s 264
Fort George, Oregon, J. Drayton; also at Walla.
Journ. Acad. Nat. Sci., v, 1863, p. 300.

Goniobasis tenebrovittata, Lea, n. s 264
Coosa River, W. Spillman, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 301.

Goniobasis Spillmanii, Lea, n.s 264
Tennessee River, W. Spillman, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 302.

Goniobasis flava, Lea, n. s 264
Benton County ? Northwest Ala., G. Hallenbeck.
Journ. Acad. Nat. Sci., v, 1863, p. 303.

Goniobasis Anthonyi, Lea, n. s 264
Tenn., J. G. Anthony.
Journ. Acad. Nat. Sci., v, 1863, p. 303.

Goniobasis Gabbiana, Lea, n. s 264
Tenn., Prof. G. Troost; Alabama, Prof. Tuomey.
Journ. Acad. Nat. Sci., v, 1863, p. 304.

Goniobasis Bridgesiana, Lea, n s 265
Cahawba River, Ala., E. R Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 305.

Goniobasis intercedens, Lea, n. s. 265
Cahawba River, Ala., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v. 1863, p. 305.

1862. LEA, ISAAC—Continued.

Goniobasis Ohiensis, Lea, n. s 265
Yellow Springs, Ohio.
Journ. Acad. Nat. Sci., v, 1863, p. 306.

Goniobasis cinerea, Lea, n. s 265
South Carolina, Prof. L. Vanuxem.
Journ. Acad. Nat. Sci., v, 1863, p. 306.

Goniobasis Vanuxemii, Lea, n. s 265
North Fork of the Holston River, Virginia, Prof. L. Vanuxem.
Jorn. Acad. Nat. Sci., v, 1863, p. 307.

Goniobasis Spartenburgensis, Lea, n. s 265
Spartenburg District, S. Carolina, Prof. L. Vanuxem; Marietta, Ohio, Dr. Hildreth; Wabash River, Indiana, H. C. Grosvenor.
Journ. Acad. Nat. Sci., v, 1863, p. 307.

Goniobasis auricoma, Lea, n. s 265
Tennessee River, W. Spillman, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 308.

Goniobasis Georgiana, Lea, n. s 265
North Georgia.
Journ. Acad. Nat. Sci., v, 1863, p. 308.

Goniobasis Vauxiana, Lea, n. s 265
Coosa River, Ala., Prof. Brumby.
Journ. Acad. Nat. Sci., v, 1863, p. 309.

Goniobasis Whitei, Lea, n. s 266
Georgia, Rev. G. White.
Journ. Acad. Nat. Sci., v, 1863, p. 310.

Goniobasis Binneyiana, Lea, n. s 266
Coosa River, Ala., W. Spillman, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 310, as *G. Binneyana.*

Goniobasis Tuomeyi, Lea, n. s 266
N. Alabama, Prof. M. Tuomey.
Journ. Acad. Nat. Sci., v, 1863, p. 311.

Goniobasis fabalis, Lea, n. s 266
Tennessee River, W. Spillman, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 311.

Goniobasis gibberosa, Lea, n. s 266
Alabama River, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 312.

Goniobasis Lyonii, Lea, n. s 266
Grayson Co., Kentucky, S. S. Lyon.
Journ. Acad. Nat. Sci., v, 1863, p. 313.

Goniobasis Pybasii, Lea, n. s 266
Tuscumbia, Ala., B. Pybas.
Journ. Acad. Nat. Sci., v, 1863, p. 313.

Goniobasis Duttonii, Lea, n. s 266
Maurey Co., Tenn., T. R. Dutton; Grayson Co., Kentucky, S. S. Lyon.
Journ. Acad. Nat. Sci., v, 1863, p. 314.

Goniobasis Doolyensis, Lea, n. s 266
Tennessee, Prof. Troost; near Vienna, Dooly Co., Georgia, Rev. G. White.
Journ. Acad. Nat. Sci., v, 1863, p. 315.

Goniobasis Viennaensis, Lea, n. s 267
Near Vienna, Dooly Co., Geo., Rev. G. White.
Journ. Acad. Nat. Sci., v, 1863, p. 315.

Goniobasis strenua, Lea, n. s 267
Benton Co., ? Northwest Ala., G. Hallenbeck.
Journ. Acad. Nat. Sci., v, 1863, p. 316.

Goniobasis sparus, Lea, n. s 267
Tennessee, Dr. Currey and Prof. Lindsey.
Journ. Acad. Nat. Sci., v, 1863, p. 316.

Goniobasis difficilis, Lea, n. s 267
Tennessee, Dr. Edgar.
Journ. Acad. Nat. Sci., v, 1863, p. 317.

Goniobasis Bairdiana, Lea, n. s 267
Columbia River, at Fort George, Oregon, J. Drayton.
Journ. Acad. Nat. Sci., v, 1863, p. 317.

1862. LEA, ISAAC—Continued.

Goniobasis inclinans, Lea, n. s 267
Near Albany, Georgia, Rev. G. White; Etowah, J. Postell; Tuscumbia, Ala., B. Pybas.
Journ. Acad. Nat. Sci., v, 1863, p. 318.

Goniobasis induta, Lea, n. s 267
Near Vienna, Dooly Co., Georgia, Rev. G. White.
Journ. Acad. Nat. Sci., v, 1863, p. 319.

Goniobasis Lindsleyi, Lea, n. s 267
Tennessee, Prof. Lindsley and Dr. Edgar.
Journ. Acad. Nat. Sci., v, 1863, p. 319.

Goniobasis Thortonii, Lea, n. s 268
Tuscumbia, L. B. Thornton, Esq.; Florence, Ala., Rev. G. White.
Journ. Acad. Nat. Sci., v, 1863, p. 320, as *G. Thorntonii*.

Goniobasis interveniens, Lea, n. s 268
North Alabama, Prof. Tuomey.
Journ. Acad. Nat. Sci., v, 1863, p. 320.

Goniobasis continens, Lea, n. s 268
North Alabama, Prof. Tuomey.
Journ. Acad. Nat. Sci., v, 1863, p. 321.

Goniobasis cerea, Lea, n. s 268
Tennessee, Prof. Troost; Duck Creek, Tenn., J. Clark.
Journ. Acad. Nat. Sci., v, 1863, p. 321.

Goniobasis viridicata, Lea, n. s 268
Grayson Co., Kentucky, S. S. Lyon.
Journ. Acad. Nat. Sci., v, 1863, p. 322.

Goniobasis Leidyana, Lea, n. s 268
Benton Co., Northwest Ala., G. Hallenbeck.
Journ. Acad. Nat. Sci., v, 1863, p. 322.

Goniobasis Abbevillensis, Lea, n. s 268
Abbeville District, S. Carolina, J. P. Barratt, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 323.

Goniobasis amœna, Lea, n. s 268
North Alabama, Prof. Tuomey.
Journ. Acad. Nat. Sci., v, 1863, p. 323.

Goniobasis paupercula, Lea, n. s 268
North Alabama, Prof. Tuomey,
Journ. Acad. Nat. Sci., v, 1863, p. 324.

Goniobasis proletaria, Lea, n. s 268
Florence, Ala., Rev. G. White.
Journ. Acad. Nat. Sci., v, 1863, p. 325.

Goniobasis inconstans, Lea, n. s 269
Etowah River, J. Postell.
Journ. Acad. Nat. Sci., v, 1863, p. 325.

Goniobasis mediocris, Lea, n. s 269
Tennessee, Dr. Edgar and Pres. Lindsey.
Journ. Acad. Nat. Sci., v, 1863, p. 326.

Goniobasis crispa, Lea, n. s 269
Florence, Ala., Rev. G. White.
Journ. Acad. Nat. Sci., v, 1863, p. 326.

Goniobasis ornatella, Lea, n. s 269
Tennessee, Coleman Sellers.
Journ. Acad. Nat. Sci., v, 1863, p. 326.

Goniobasis olivella, Lea, n. s 269
Tennessee, Prof. Troost.
Journ. Acad. Nat. Sci., v, 1863, p. 327.

Goniobasis purpurella, Lea, n. s 269
Caney-Fork River, Tenn., J. Lewis, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 327.

Goniobasis cinerella, Lea, n. s 269
Tennessee, Coleman Sellers.
Journ. Acad. Nat. Sci., v, 1863, p. 328.

Goniobasis Christyi, Lea, n. s 269
Valley River, Cherokee Co., N. C., Prof. David Christy.
Journ. Acad. Nat. Sci., v, 1863, p. 328.

1862. LEA, ISAAC—Continued.

Goniobasis instabilis, Lea, n. s 269
Cherochee Co., Georgia, Prof. David Christy.
Journ. Acad. Nat. Sci., v, 1863, p. 328.

Goniobasis Gerhardtii, Lea, n. s 270
Chattanooga River, Georgia, Alexander Gerhardt; Coosa River, Alabama, D. Spillman.
Journ. Acad. Nat. Sci., v, 1863, p. 330.

Goniobasis infuscata, Lea, n. s 270
Georgia, Rev. G. White; Coosa River, Ala., Dr. Spillman.
Journ. Acad. Nat. Sci., v, 1863, p. 330.

Goniobasis mutabilis, Lea, n. s 270
Butts Co., Ga., Rev. G. White.
Journ. Acad. Nat. Sci., v, 1863, p. 331.

Goniobasis cruda, Lea, n. s 270
Tennessee River, Dr. Spillman.
Journ. Acad. Nat. Sci., v, 1863, p. 332.

Goniobasis rubella, Lea, n. s 270
Near Murphy, Cherokee Co., N. C., Prof. Christy.
Journ. Acad. Nat. Sci., v, 1863, p. 332.

Goniobasis macella, Lea, n. s 270
Coosa River, Ala., Prof. Brumby.
Journ. Acad. Nat. Sci., v, 1863, p. 333.

Goniobasis rubiginosa, Lea, n. s 270
Oregon, W. Newcomb, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 333.

Goniobasis Ucheénsis, Lea, n. s 270
Little Uchee River, below Columbus, Georgia, G. Hallenbeck, Esq.
Journ. Acad. Nat. Sci., v, 1863, p. 334.

Goniobasis inosculata, Lea, n. s 270
Little Uchee River, below Columbus, Georgia, G. Hallenbeck, Esq.
Joarn. Acad. Nat. Sci,, v, 1863, p. 334.

Goniobasis Barrattii, Lea, n. s 271
Abbeville District, S. Carolina, J. P. Barratt, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 335.

Goniobasis rubricata, Lea, n. s 271
Tennessee, Prof. Troost.
Journ. Acad. Nat. Sci., v, 1863, p. 335.

Goniobasis Bentoniensis, Lea, n. s 271
Benton County ? N. Alabama, G. Hallenbeck, Esq.
Journ. Acad. Nat. Sci., v, 1863, p. 336.

Goniobasis negata, Lea, n. s 271
Coosa River, Ala., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 337.

Goniobasis Elliottii, Lea, n. s 271
Fannin Co., Georgia, Bishop Elliott; Uchee and Little Uchee Rivers, Alabama, G. Hallenbeck and Dr. Gesner.
Journ. Acad. Nat. Sci., v, 1863, p. 338.

Goniobasis flavescens, Lea, n. s 271
Oconee and Tennessee River, Tenn., Rev. G. White.
Journ. Acad. Nat. Sci., v, 1863, p. 339.

Goniobasis Hallenbeckii, Lea, n. s 271
Randall's Creek, near Columbus, Geo., G. Hallenbeck, Esq.
Journ. Acad. Nat. Sci., v, 1863, p. 339.

Goniobasis Canbyi, Lea, n. s 271
Lake Monroe, Florida, Wm. Canby; and Etowah and Tennessee Rivers, George J. Postell.
Journ. Acad. Nat. Sci., v, 1863, p. 340.

Goniobasis Couperii, Lea, n. s 271
Etowah River, Mr. Couper, by J. Postell.
Journ. Acad. Nat. Sci., v, 1863, p. 341.

Goniobasis Downieana, Lea, n. s 272
Etowah River, J. Postell.
Journ. Acad. Nat. Sci., v, 1863, p. 341.

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Goniobasis Tryoniana, Lea, n. s 272
Oostenaula, near Rome, Bishop Elliott; Etowah River, Georgia, J. Postell; Ocoee and Tennessee Rivers, Rev. G. White.
Journ. Acad. Nat. Sci., v, 1863, p. 342.

Goniobasis granata, Lea, n. s 272
Etowah, near Canton, Ga., Bishop Elliott and Rev. G. White.
Journ. Acad. Nat. Sci., v, 1863, p. 343.

Goniobasis Stewardsoniana, Lea, n. s 272
Knoxville, Kentucky, B. W. Budd, M. D.
Journ. Acad. Nat. Sci., v, 1863, p, 344.

Goniobasis cadus, Lea, n. s 272
Georgia, Major J. Le Conte.
Journ. Acad. Nat. Sci., v, 1863, p. 345.

210.

1862. LEA, ISAAC. Descriptions of Eleven New Species of Melanidæ of the United States. <*Proc. Acad. Nat. Sci., Phila.*, xiv, pp. 272–273.

Read before the Academy of Natural Sciences June 3, 1862. Ordered to be published in the Proceedings May 27, 1862.

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Trypanostoma Henryanum, Lea, n. s 272
Tennessee, ? Smithsonian Institution.
Journ. Acad. Nat. Sci., v, 1862, p. 351.

Trypanostoma rostellatum, Lea, n. s 272
Florence, Alabama, Rev. G. White.
Journ. Acad. Nat. Sci., v, 1862, p. 353.

Trypanostoma strictum, Lea, n. s 272
South Carolina, Prof. L. Vanuxem.
Journ. Acad. Nat. Sci., v. 1863, p. 352.

Trypanostoma lativittatum, Lea, n. s 273
Chikasaha River, Ala., Wm. Spillman, M. D.
Journ. Acad. Nat. Sci., v, 1863. p. 352.

Trypanostoma Carolinense, Lea, n. s 273
South Carolina, Prof. L. Vanuxem.
Journ. Acad. Nat. Sci., v, 1863, p. 351.

Trypanostoma luteum, Lea, n. s 273
South Carolina, Prof. L. Vanuxem.
Journ. Acad. Nat. Sci., v, 1863, p. 350.

Trypanostoma dignum, Lea, n. s 273
Yellowleaf Creek, Shelby Co., Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 350.

Strephobasis carinata, Lea, n. s 273
Tennessee River, Wm. Spillman, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 355.

Strephobasis olivaria, Lea, n. s 273
Knoxville, Tennessee, J. Clark.
Journ. Acad. Nat. Sci., v, 1863, p. 356.

Lithasia vittata, Lea, n. s 273
Coosa and Cahawba Rivers, Ala., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., v, 1863, p. 354.

Lithasia Downiei, Lea, n. s 273
Cumberland River, T. C. Downie.
Journ. Acad. Nat. Sci., v, 1863, p. 354.

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1862. LEA, ISAAC. Description of a New Genus (Trypanostoma) | of the | Family Melanidæ, and of Forty-five New Species. | — | Description of Ten New Species of Unionidæ | of the United States. | — | Description of Two New Species of Exotic | Uniones and One Monocondylœa. | — | Description of a New Genus (Goniobasis) | of the | Family Melanidæ, and Eighty-two Species. | — | Description of Eleven New Species of Melanidæ | of the United States. | — | by |

1862. LEA, ISAAC—Continued.

Isaac Lea, LL. D. | — | Philadelphia: | Merrihew & Thompson, Printers. | Lodge St., corner of Kenton Place. | 1862. 8°. pp. 29.

This is a reprint of Nos. 206, 207, 208, 209, 210.

Presented to the Library of the Academy of Natural Sciences in 1862. (See *Proc. Acad. Nat. Sci., Phila.*, xiv, p. 612.)

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1862. LEA, ISAAC. Check List of the Shells of North America. Unionidæ. <Smithsonian Miscellaneous Collections. II. Part of article VI, pp. 6.

Separate 8°. pp. 6.

213.

1862. LEA, ISAAC. New Unionidæ of the United States and Arctic America. <*Journ. Acad. Nat. Sci., Phila.*, v, New Series, pp. 187–216. Plates 24–33.

Read before the Academy of Natural Sciences, Phila., June 3, 1862. Extra copies printed for the author October, 1862. (See *Journ. Acad. Nat. Sci., Phila.*, v, p. 3.) This, with No. 214, forms No. 215.

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Anodonta Showalterii, Lea, pl. 33, fig. 284 215
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1862. LEA, ISAAC. New Melanidæ of the United States. <*Journ. Acad. Nat. Sci.*, v. New Series, pp. 217–356, with plates, 34 to 39 inclusive.

Read before the Academy of Natural Sciences, Phila., June 3, 1862. Extra copies printed for the author March, 1863. (See *Journ. Acad. Nat. Sci., Phila.*, v. n. s., p. 3.) This, with No. 213, forms No. 215.

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Proc. Acad. Nat. Sci., 1862, p. 264.
Goniobasis Draytonii, Lea, pl. 37, fig. 134 300
Proc. Acad. Nat. Sci., 1862, p. 264.
Goniobasis Newberryi, Lea, pl. 37, fig. 135 300
Proc. Acad. Nat. Sci., 1860, p. 93.
Goniobasis tenebrovittata, Lea, pl. 37, fig. 136 301
Proc. Acad. Nat. Sci., 1862, p. 264.
Goniobasis nigrina, Lea, pl. 37, fig. 137 302
Proc. Acad. Nat. Sci., 1856, p. 80, as *Melania nigrina*.
Goniobasis Spillmanii, Lea, pl. 37, fig. 138 302
Proc. Acad. Nat. Sci., 1862, p. 264.
Goniobasis flava, Lea, pl. 37, fig. 139 303
Proc. Acad. Nat. Sci., 1862, p. 264.
Goniobasis Anthonyi, Lea, pl. 37, fig. 140 303
Proc. Acad. Nat. Sci., 1862, p. 264.
Goniobasis Gabbiana, Lea, pl. 37, fig. 141 308
Proc. Acad. Nat. Sci., 1862, p. 265.
Goniobasis Bridgesiana, Lea, pl. 37, fig. 142 305
Proc. Acad. Nat. Sci., 1862, p. 265.
Goniobasis intercedens, Lea, pl. 37, fig. 143 305
Proc. Acad. Nat. Sci., 1862, p. 265.
Goniobasis Ohiocnsis, Lea, pl. 37, fig. 144 306
Proc. Acad. Nat. Sci., 1862, p. 265, as *G. Ohiensis*.
Goniobasis cinerea, Lea, pl. 37, fig. 145 306
Proc. Acad. Nat. Sci., 1862, p. 265.
Goniobasis Vanuxemii, Lea, pl. 37, fig. 146 304
Proc. Acad. Nat. Sci., 1862, p. 265.
Goniobasis Spartanburgensis, Lea, pl. 37, fig. 147 307
Proc. Acad. Nat. Sci., 1862, p. 265.
Goniobasis auricoma, Lea, pl. 37, fig. 148 308
Proc. Acad. Nat. Sci., 1862, p. 265.
Goniobasis Georgiana, Lea, pl. 37, fig. 149 307
Proc. Acad. Nat. Sci., 1862, p. 265.
Goniobasis Vauxiana, Lea, pl. 37, fig. 150 309
Proc. Acad. Nat. Sci., 1862, p. 265.
Goniobasis Whitei, Lea, pl. 37, fig. 151 310
Proc. Acad. Nat. Sci., 1862, p. 266.

1862. LEA, ISAAC—Continued.

Goniobasis Binneyana, Lea, pl. 37, fig. 152 310
Proc. Acad. Nat. Sci., 1862, p. 266, as *G. Binneyiana*.
Goniobasis Tuomeyi, Lea, pl. 37, fig. 153 311
Proc. Acad. Nat. Sci., 1862, p. 266.
Goniobasis fabalis, Lea, pl. 37, fig. 154 311
Proc. Acad. Nat. Sci., 1862, p. 266.
Goniobasis gibberosa, Lea, pl. 37, fig. 155 312
Proc. Acad. Nat. Sci., 1862, p. 266.
Goniobasis Lyonii, Lea, pl. 37, fig. 156 313
Proc. Acad. Nat. Sci., 1862, p. 266.
Goniobasis Pybasii, Lea, pl. 37, fig. 157 313
Proc. Acad. Nat. Sci., 1862, p. 266.
Goniobasis Duttonii, Lea, pl. 37, fig. 158 314
Proc. Acad. Nat. Sci., 1862, p. 266.
Goniobasis Doolyensis, Lea, pl. 37, fig. 159 315
Proc. Acad. Nat. Sci., 1862, p. 266.
Goniobasis Viennaensis, Lea, pl. 37, fig. 160 315
Proc. Acad. Nat. Sci., 1862, p. 267.
Goniobasis strenua, Lea, pl. 37, fig. 161 316
Proc. Acad. Nat. Sci., 1862, p. 267.
Goniobasis sparus, Lea, pl. 37, fig. 162 316
Proc. Acad. Nat. Sci., 1862, p. 267.
Goniobasis difficilis, Lea, pl. 37, fig. 163 317
Proc. Acad. Nat. Sci., 1862, p. 267.
Goniobasis Bairdiana, Lea, pl. 37, fig. 164 317
Proc. Acad. Nat. Sci., 1862, p. 267.
Goniobasis inclinans, Lea, pl. 37, fig. 165 318
Proc. Acad. Nat. Sci., 1862, p. 267.
Goniobasis induta, Lea, pl. 37, fig. 166 319
Proc. Acad. Nat. Sci., 1862, p. 267.
Goniobasis Lindsleyi, Lea, pl. 37, fig. 167 319
Proc. Acad. Nat. Sci., 1862, p. 267.
Goniobasis Thorntonii, Lea, pl. 38, fig. 168 320
Proc. Acad. Nat. Sci., 1862, p. 268, as *G. Thortonii*.
Goniobasis interveniens, Lea, pl. 38, fig. 169 320
Proc. Acad. Nat. Sci., 1862, p. 268.
Goniobasis continens, Lea, pl. 38, fig. 170 321
Proc. Acad. Nat. Sci., 1862, p. 268.
Goniobasis cerea, Lea, pl. 38, fig. 171 321
Proc. Acad. Nat. Sci., 1862, p. 268.
Goniobasis viridicata, Lea, pl. 38, fig. 172 322
Proc. Acad. Nat. Sci., 1862, p. 268.
Goniobasis Leidyana, Lea, pl. 38, fig. 173 322
Proc. Acad. Nat. Sci., 1862, p. 268.
Goniobasis Abbevillensis, Lea, pl. 38, fig. 174 323
Proc. Acad. Nat. Sci., 1862, p. 268.
Goniobasis amœna, Lea, pl. 38, fig. 175 323
Proc. Acad. Nat. Sci., 1862, p. 268.
Goniobasis paupercula, Lea, pl. 38, fig. 176 324
Proc. Acad. Nat. Sci., 1862, p. 268.
Goniobasis proletaria, Lea, pl. 38, fig. 177 325
Proc. Acad. Nat. Sci., 1862, p. 268.
Goniobasis inconstans, Lea, pl. 38, fig. 178 325
Proc. Acad. Nat. Sci., 1862, p. 269.
Goniobasis mediocris, Lea, pl. 38, fig 179 326
Proc. Acad. Nat. Sci., 1862, p. 269.
Goniobasis crispa, Lea, pl. 38, fig. 180 326
Proc. Acad. Nat. Sci., 1862, p. 269.
Goniobasis ornatella, Lea, pl. 38, fig. 181 326
Proc. Acad. Nat. Sci., 1862, p. 269.
Goniobasis olivella, Lea, pl. 38, fig. 182 327
Proc. Acad. Nat. Sci., 1862, p. 269.
Goniobasis purpurella, Lea, pl. 38, 183 327
Proc. Acad. Nat. Sci., 1862, p. 269.
Goniobasis cinerella, Lea, pl. 38, fig. 184 328
Proc. Acad. Nat. Sci., 1862, p. 269.

1862. LEA, ISAAC—Continued.

Goniobasis Christyi, Lea, pl. 38, fig. 185 328
Proc. Acad. Nat. Sci., 1862, p. 269.
Goniobasis instabilis, Lea, pl. 38, fig. 186 329
Proc. Acad. Nat. Sci., 1862, p. 269.
Goniobasis Gerhardtii, Lea, pl. 38, fig. 187 330
Proc. Acad. Nat. Sci., 1862, p. 270.
Goniobasis infuscata, Lea, pl. 38, fig. 188 330
Proc. Acad. Nat. Sci., 1862, p. 270.
Goniobasis mutabilis, Lea, pl. 38, fig. 189 331
Proc. Acad. Nat. Sci., 1862, p. 270.
Goniobasis cruda, Lea, pl. 38, fig. 190 332
Proc. Acad. Nat. Sci., 1862, p. 270.
Goniobasis rubella, Lea, pl. 38, fig. 191 332
Proc. Acad. Nat. Sci., 1862, p. 270.
Goniobasis macella, Lea, pl. 38, fig. 192 333
Proc. Acad. Nat. Sci., 1862, p. 270.
Goniobasis rubiginosa, Lea, pl. 38, fig. 193 333
Proc. Acad. Nat. Sci., 1862, p. 270.
Goniobasis Ucheensis, Lea, pl. 38, fig. 194 334
Proc. Acad. Nat. Sci., 1862, p. 270.
Goniobasis inosculata, Lea, pl. 38, fig. 195 334
Proc. Acad. Nat. Sci., 1862, p. 270.
Goniobasis Barrattii, Lea, pl. 38, fig. 196 335
Proc. Acad. Nat. Sci., 1862, p. 271.
Goniobasis rubricata, Lea, pl. 38, fig. 197 335
Proc. Acad. Nat. Sci., 1862, p. 271.
Goniobasis Bentoniensis, Lea, pl. 38, fig. 198 336
Proc. Acad. Nat. Sci., 1862, p. 271.
Goniobasis Shastaensis, Lea, pl. 38, fig. 199 337
Proc. Acad. Nat. Sci., 1856, p. 80, as *Melania Shastaensis*.
Goniobasis negata, Lea, pl. 38, fig. 200 337
Proc. Acad. Nat. Sci., 1862, p. 271.
Goniobasis Elliottii, Lea, pl. 38, fig. 201 338
Proc. Acad. Nat. Sci., 1862, p. 271.
Goniobasis flavescens, Lea, pl. 38, fig. 202 339
Proc. Acad. Nat. Sci., 1862, p. 271.
Goniobasis Hallenbeckii, Lea, pl. 38, fig. 203 339
Proc. Acad. Nat. Sci., 1862, p. 271.
Goniobasis Canbyi, Lea, pl. 38, fig. 204 340
Proc. Acad. Nat. Sci., 1862, p. 271.
Goniobasis Couperii, Lea, pl. 38, fig. 205 341
Proc. Acad. Nat. Sci, 1862, p. 271.
Goniobasis Downieana, Lea, pl. 38, fig. 206 341
Proc. Acad. Nat. Sci., 1862, p. 272.
Goniobasis Tryoniana, Lea, pl. 38, fig. 207 342
Proc. Acad. Nat. Sci., 1862, p. 272.
Goniobasis Postellii, Lea, pl. 38, fig. 208 343
Proc. Acad. Nat. Sci., 1858, as *Melania Postellii*.
Goniobasis granata, Lea, pl. 38, fig. 209 343
Proc. Acad. Nat. Sci., 1862, p. 272.
Goniobasis Stewardsoniana, Lea, pl. 38, fig. 210 344
Proc. Acad. Nat. Sci., 1862, p. 272.
Goniobasis cadus, Lea, pl. 38, fig. 211 345
Proc. Acad. Nat. Sci., 1862, p. 272.
Io, Lea, n. g 345
Io nodosa, Lea, pl. 39, fig. 212 346
Proc. Acad. Nat. Sci., 1861, p. 393.
Io robusta, Lea, pl. 39, fig. 213 346
Proc. Acad. Nat. Sci., 1861, p. 393.
Io variabilis, Lea, pl. 39, fig. 214 347
Proc. Acad. Nat. Sci., 1861, p. 393.
Io Spillmanii, Lea, pl. 39, fig. 215 348
Proc. Acad. Nat. Sci., 1861, p. 394.
Io modesta, Lea, pl. 39, fig. 216 348
Proc. Acad. Nat. Sci., 1861, p. 394.

1862. LEA, ISAAC—Continued.

Io gracilis, Lea, pl. 39, fig. 217 349
Proc. Acad. Nat. Sci., 1861, p. 394.
Io viridula, Lea, pl. 39, fig. 218 349
Proc. Acad. Nat. Sci., 1861, p. 394.
Trypanostoma dignum, Lea, pl. 39, fig. 219 350
Proc. Acad. Nat. Sci., 1862, p. 273.
Trypanostoma luteum, Lea, pl. 39, fig. 220 350
Proc. Acad. Nat. Sci., 1862, p. 273.
Trypanostoma Carolinense, Lea, pl. 39, fig. 221 351
Proc. Acad. Nat. Sci., 1862, p. 273.
Trypanostoma Henryanum, Lea, pl. 39, fig. 222 351
Proc. Acad. Nat. Sci., 1862, p. 272.
Trypanostoma lativittatum, Lea, pl. 39, fig. 223 352
Proc. Acad. Nat. Sci., 1862, p. 273.
Trypanostoma strictum, Lea, pl. 39, fig. 224 352
Proc. Acad. Nat. Sci., 1862, p. 272.
Trypanostoma rostellatum, Lea, pl. 39, fig. 225 353
Proc. Acad. Nat. Sci., 1862, p. 272.
Lithasia vittata, Lea, pl. 39, fig. 226 354
Proc. Acad. Nat. Sci., 1862, p. 273.
Lithasia Downiei, Lea, pl. 39, fig. 227 354
Proc. Acad. Nat. Sci., 1862, p. 273.
Strephobasis carinata, Lea, pl. 39, fig. 228 355
Proc. Acad. Nat. Sci., 1862, p. 273.
Strephobasis olivaria, Lea, pl. 39, fig. 229 356
Proc. Acad. Nat. Sci., 1862, p. 273.

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1863. LEA, ISAAC. Observations | on the | Genus Unio, | together with | Descriptions of New Species, their Soft Parts, and Embryonic Forms in | the Family Unionidæ, | and Descriptions of New Genera and species of the | Melanidæ. | Read before the Academy of Natural Sciences of Philadelphia, and published in their Journal. | by | Isaac Lea, LL. D., | President of the Academy of Natural Sciences of Philadelphia, Etc., Etc. | with sixteen plates. | Vol. 9. | Philadelphia: | Printed for the author. 4°. pp. 180. With plates of the Journ. of the Acad. Nat. Sci. 2d Series. Vol. V. Plates 24–39.

This consists of Nos. 213 and 214.

Presented to the Library of the Academy of Natural Sciences, Phila., 1863. (See *Proc. Acad. Nat. Sci., Phila.*, xv, p. 378.)

216.

1863. LEA, ISAAC. Descriptions of fourteen new species of *Melanidæ* and one *Paludina*. <*Proc. Acad. Nat. Sci., Phila.*, xv, pp. 154–156. May, 1863.

Read before the Academy of Natural Sciences May 19, 1863. Ordered to be published in Proceedings May 26, 1863.

Proceedings for May laid on the table June 30, 1863. (See *Proc. Acad. Nat. Sci., Phila.* XV, p. 157.)

This forms part of No. 236.

Goniobasis Milesii, Lea, n. s 154
Tuscola Co., Mich., M. Miles, State Zoologist.
Journ. Acad. Nat. Sci., vi, 1866, p. 135.
Goniobasis lithasiodes, Lea, n. s 154
Ohio, J. P. Kirtland, M. D.
Journ. Acad. Nat. Sci., vi. 1866, p. 133, as *G. lithasioides*.
Goniobasis Decampii, Lea, n. s 154
Huntsville, Ala., Wm. H. De Camp, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 138.
Goniobasis informis, Lea, n. s 154
Falls of the Ohio at Louisville, W. H. De Camp, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 136.
Goniobasis Louisvillensis, Lea, n. s 155
Falls of the Ohio at Louisville, W. H. De Camp, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 133.

1863. LEA, ISAAC—Continued.

Goniobasis infantula, Lea, n. s 155
Falls of the Ohio at Louisville, W. H. De Camp, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 135.

Goniobasis aterina, Lea, n. s 155
Gap Spring, Cumberland Gap; and Roger's Spring, west of Fincastle, East Tennessee, Capt. S. S. Lyon.
Journ. Acad. Nat. Sci., vi, 1866, p. 136.

Goniobasis porrecta, Lea, n. s 155
Gap Creek and Spring, Cumberland Gap, E. Tenn., Capt. S. S. Lyon.
Journ. Acad. Nat. Sci., vi, 1866, p. 139.

Goniobasis vittatella, Lea, n. s 155
Cumberland Gap, E. Tenn., Capt. S. S. Lyon.
Journ. Acad. Nat. Sci., vi, 1866, p. 134.

Goniobasis Cumberlandiensis, Lea, n. s 155
Gap Spring, Cumberland Gap, Capt. Lyon; Knoxville, Tenn., Wm. Spillman, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 132.

Trypanostoma Curricranum, Lea, n. s 155
Florence, Alabama, W. H. De Camp, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 147, as *T. Curricrianum*.

Trypanostoma Lyonii, Lea, n. s 155
Cumberland River, near the Ford and Big Creek, south of Cumberland Gap, E. Tenn., Capt. Lyon.
Journ. Acad. Nat. Sci., vi, 1866, p. 144.

Trypanostoma curtatum, Lea, n. s 155
Powell's River, near Cumberland Gap, E. Tenn., Capt. Lyon.
Journ. Acad. Nat. Sci., vi, 1866, p 143.

Amnicola Curricriana, Lea, n. s 156
Huntsville, Alabama, W. H. De Camp, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 186.

Paludina Milesii, Lea, n. s 156
Branch Lake, Antrim Co., Mich., M. Miles.
Journ. Acad. Nat. Sci., vi, 1866, p. 184.

217.

1863. LEA, ISAAC. Descriptions of Eleven New Species of Exotic *Unionidæ*. <*Proc. Acad. Nat. Sci. Phila.*, xv, pp. 189–190. July, 1863.

Read before the Academy Natural Sciences June 16, 1863. Ordered to be published in the Proceedings July 28, 1863. This forms part of No. 236.

Unio delicatus, Lea, n. s 189
River Orontes, Syria, C. M. Wheatley.
Journ. Acad. Nat. Sci., vi, 1863, p. 58.

Unio Bourguignatianus, Lea, n. s 189
Tigris River at Mosul, Asia Minor, C. M. Wheatley.
Journ. Acad. Nat. Sci., vi, 1866, p. 54.

Unio dignatus, Lea, n. s 189
River Tigris at Bagdad, C. M. Wheatley.
Journ. Acad. Nat. Sci., vi, 1866, p. 51.

Unio rasus, Lea, n. s 189
Assyria, C. M. Wheatley.
Journ. Acad. Nat. Sci., vi, 1866, p. 50.

Unio Syriacus, Lea, n. s 189
River Orontes, Syria, C. M. Wheatley.
Journ. Acad. Nat. Sci., vi, 1866, p. 56.

Unio Damascensis, Lea, n. s 190
River Barado, Damascus, Asia Minor C. M. Wheatley.
Journ. Acad. Nat. Sci., vi, 1866, p. 55.

Unio Orontesensis, Lea, n. s 190
River Orontes, Syria, C. M. Wheatley.
Journ. Acad. Nat. Sci., vi, 1866, p. 53.

Unio Mosulensis, Lea, n. s 190
River Tigris at Mosul, C. M. Wheatley
Journ. Acad. Nat. Sci., vi, 1866, p. 52.

1863. LEA, ISAAC—Continued.

Unio tripartitus, Lea, n. s 190
Jillingee River, India, Dr. Burrough.
Journ. Acad. Nat. Sci., vi, 1866, p. 57.

Monocondylœa compressa, Lea, n. s 190
Siam, C. M. Wheatley.
Journ. Acad. Nat. Sci., vi, 1866, p. 30.

Anodonta Dallasiana, Lea, n. s 190
Winnipeg, mouth of the Saskatchewan River, R. Kennicott.
Journ. Acad. Nat. Sci., vi, 1866, p. 29.

218.

1863. LEA, ISAAC. Description of a new species of *Unio* and a *Monocondylœa*. <*Proc. Acad. Nat. Sci., Phila.*, xv, p. 190. July, 1863.

Read before the Academy Natural Sciences July 21, 1863. Ordered to be published in the Proceedings July 28, 1863. This forms part of No. 236.

Unio Laosensis, Lea, n. s 190
Laos Mountains, Cambodia, Siam, Monsieur Mouhot, per H. Cuming, esq.
Journ. Acad. Nat. Sci., vi, 1866, p. 63.

Monocondylœa Mouhotii, Lea, n. s 190
Laos Mountains, Cambodia, Siam, Monsieur Mouhot, per H. Cuming, esq.
Journ. Acad. Nat. Sci., vi, 1866, p. 65.

219.

1863. LEA, ISAAC. Descriptions of twenty-four New Species of *Unionidæ* of the United States. <*Proc. Acad. Nat. Sci., Phila.*, xv, pp. 191–194. July, 1863.

Read before the Academy Natural Sciences June 16, and ordered to be published in the Proceedings July 28, 1863. This forms part of No. 236.

Unio Raleighensis, Lea, n. s 191
Neuse River, six miles east of Raleigh, N. Carolina, E. Emmons, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 6.

Unio Charlottensis, Lea, n. s 191
Near Charlotte, Mecklenberg Co., N. Carolina, E. Emmons, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 8.

Unio Mecklenbergensis, Lea, n. s 191
Near Charolotte, Mecklenberg Co., N. Carolina, E. Emmons, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 17.

Unio Gastonensis, Lea, n. s 191
Mine Creek, Gaston Co., N. Carolina, C. M. Wheatley.
Journ. Acad. Nat. Sci., vi, 1866, p. 20.

Unio Weldonensis, Lea, n. s 191
Roanoke River at Weldon, N. Carolina, E. Emmons, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 11.

Unio aberrans, Lea, n. s 191
Neuse River, six miles east of Raleigh, N. Carolina, E. Emmons, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 7.

Unio Chathamensis, Lea, n. s 191
Rocky River, Chatham Co., N. Carolina, E. Emmons, M. D.; James River, near Richmond, Major Le Conte.
Journ. Acad. Nat. Sci., vi, 1866, p. 21.

Unio mediocris, Lea, n. s 191
Neuse River, Raleigh, N. Carolina, E. Emmons, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 24.

Unio squalidus, Lea, n. s 192
Neuse River, near Raleigh; Roanoke, near Weldon; Deep River, N. Carolina, E. Emmons, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 22.

Unio Livingstonensis, Lea, n. s 192
Livingston's Creek, Brunswick Co., North Carolina, E. Emmons, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 14.

Unio quadrilaterus, Lea, n. s 192
Abbeville District, S. Carolina, Dr. Barratt; Neuse River, Raleigh and Catawba River, North Carolina, C. M. Wheatley.
Journ. Acad. Nat. Sci., vi, 1866, p. 5.

1863. LEA, ISAAC—Continued.

Unio lucidus, Lea, n. s 192
Livingston's Creek, Brunswick Co., N. Carolina, E. Emmons, M. D.
Journ. Acad. Nat. Sci., vi, 1862, p. 9.

Unio nasutilus, Lea, n. s 192
Livingston's Creek, Brunswick Co., N. Carolina, E. Emmons, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 12, as *U. nasutulus*.

Unio indefinitus, Lea, n. s 192
Long Creek, Mecklenberg Co., N. Carolina, C. M. Wheatley; Neuse River, near Raleigh, E. Emmons, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 15, as *U. indefinitus*.

Unio eistellæformis, Lea, n. s 192
Neuse River, near Raleigh, N. Carolina, E. Emmons, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 19.

Unio Waccamawensis, Lea, n. s 193
Waccamaw Lake, N. Carolina, E. Emmons, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 16.

Unio pertenuis, Lea, n. s 193
Neuse River, near Raleigh, N. Carolina, E. Emmons, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 8.

Unio perlucens, Lea, n. s 193
Six Runs, Sampson Co., N. Carolina, E. Emmons, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 18.

Unio perlatus, Lea, n. s 193
Black Rock Landing, Cape Fear River, N. Carolina, E. Emmons, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 15.

Unio viridulus, Lea, n. s 193
Neuse River, near Raleigh, N. Carolina, E. Emmons, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 10.

Unio oblatus, Lea, n. s 193
Long Creek, Gaston Co., N. Carolina, C. M. Wheatley; N. Carolina, J. G. Anthony.
Journ. Acad. Nat. Sci., vi, 1866, p. 13, as *U. oblatus*.

Unio curatus, Lea, n. s 193
Sugar Creek, N. Carolina, C. M. Wheatley.
Journ. Acad. Nat. Sci., vi, 1866, p. 23.

Unio doliaris, Lea, n. s 193
Stewart's Milldam, Union Co., N. Carolina, C. M. Wheatley.
Journ. Acad. Nat. Sci., vi, 1866, p. 24, as *U. doliaris*.

Anodonta Bealei, Lea, n. s 193
Leon Co., Texas, Lieutenant Beale.
Journ. Acad. Nat. Sci., vi, 1866, p. 26.

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1863. LEA, ISAAC. New Exotic Unionidæ. <*Journ. Acad. Nat. Sci.*, v, new series, pp. 377–400. Plates 41–50.

Read before the Academy Natural Sciences, Phila., May 12, 1863. Ordered to be published in the Journal May 26, 1863. Extra copies printed for the author November, 1863. (See *Journ. Acad. Nat. Sci., Phila.*, v, n. s., p. 3.) This, with No. 221, forms No. 222.

"Most of the species described in this paper are from South America, and nearly the whole of these were collected by Prof. J. Wyman. A few are from Asia, presented by various friends, to whom they are duly credited."

Unio Æthiops, Lea, pl. 41, fig. 285 377
Uruguay River, South America, Prof. J. Wyman.
Proc. Acad. Nat. Sci., xii, 1860, p. 91.

Unio funebralis, Lea, pl. 41, fig. 286 378
Uruguay River, South America, Prof. J. Wyman.
Proc. Acad. Nat. Sci., xii, 1860, p. 91.

Unio piceus, Lea, pl. 41, fig. 287 379
Uruguay River, South America, Prof. J. Wyman.
Proc. Acad. Nat. Sci., xii, 1860, p. 91.

Unio nocturnus, Lea, pl. 42, fig. 288 380
Uruguay River, South America, Prof. J. Wyman.
Proc. Acad. Nat. Sci., xii, 1860, p. 91.

1863. LEA, ISAAC—Continued.

Unio Wymanii, Lea, pl. 42, fig. 289 381
Uruguay River, South America, Prof. J. Wyman.
Proc. Acad. Nat. Sci., xii, 1860, p. 90.

Unio gratus, Lea, pl. 43, fig. 290 382
Uruguay River, South America, Prof. J. Wyman.
Proc. Acad. Nat. Sci., xii, 1860, p. 91.

Unio patelloides, Lea, pl. 43, fig. 291 383
Amazon River, Brazil, Capt. George Brow; Rio Plata, H. Cuming.
Proc. Acad. Nat. Sci., xii, 1860, p. 89.

Unio peræformis, Lea, pl. 43, fig. 292 384
Uruguay River, South America, Prof. J. Wyman.
Proc. Acad. Nat. Sci., xii, 1860, p. 90.

Unio disculus, Lea, pl. 44, fig. 293 385
Uruguay River, South America, Prof. J. Wyman.
Proc. Acad. Nat. Sci., xii, 1860, p. 91.

Unio trifidus, Lea, pl. 44, fig. 295 386
Buenos Ayres, South America, M. D'Orbigny.
Proc. Acad. Nat. Sci., xii, 1860, p. 89.

Unio piger, Lea, pl. 45, fig. 296 387
Uruguay River, South America, Prof. J. Wyman.
Proc. Acad. Nat. Sci., xii, 1860, p. 90.

Unio Uruguayensis, Lea, pl. 45, fig. 298 388
Uruguay River, South America, Prof. J. Wyman.
Proc. Acad. Nat. Sci., xii, 1860, p. 90.

Unio lepidus, Lea, pl. 50, fig. 306 389
Uruguay River, South America, Prof. J. Wyman.
Proc. Acad. Nat. Sci., xii, 1860, p. 91.

Anodonta Wymanii, Lea, pl. 44, fig. 294 390
Uruguay River, South America, Prof. J. Wyman.
Proc. Acad. Nat. Sci., xii, 1860, p. 91.

Anodonta rubicunda, Lea, pl. 46, fig. 299 392
Uruguay River, Prof. J. Wyman.
Proc. Acad. Nat. Sci., xii, 1860, p. 92.

Anodonta Forbesiana, Lea, pl. 47, fig. 301 393
Uruguay River, South America, Prof. J. Wyman.
Proc. Acad. Nat. Sci., xii, 1860, p. 92.

Anodonta Uruguayensis, Lea, pl. 48, fig. 302 393
Uruguay River, South America, Prof. J. Wyman.
Proc. Acad. Nat. Sci., xii, 1860, p. 92.

Anodonta lato-marginata, Lea 394
Trans. Amer. Philos. Soc., v, pl. 12, fig. 34.

Anodonta Cailliaudii, Lea, pl. 45, fig. 297 395
Brazil, Monsieur F. Cailliaud.
Proc. Acad. Nat. Sci., xii, 1860, p. 308.

Anodonta Amazonensis, Lea, pl. 46, fig. 300 395
Upper Amazon, Brazil, C. M. Wheatley.
Proc. Acad. Nat. Sci., xii, 1860, p. 89.

Anodonta Moricandii, Lea, pl. 49, fig. 303 396
Bahia, Brazil, S. Moricand, Geneva, Switzerland.
Proc. Acad. Nat. Sci., xii, 1860, p. 90.

Unio occatus, Lea, pl. 50, fig. 304 398
Bengal, W. A. Haines.
Proc. Acad. Nat. Sci., xii, 1860, p. 307.

Myectopus emarginatus, Lea, pl. 50, fig. 305 398
Siam, S. R. House, M. D.
Proc. Acad. Nat. Sci., xii, 1860, p. 308.

Monocondylæa Wheatleyi, Lea, pl 50, fig. 307 399
River Tigris, Assyria, C. M. Wheatley.

221.

1863. LEA, ISAAC. Descriptions of the Soft Parts of one hundred and forty-three species and some Embryonic Forms of Unionidæ of the United States. <*Journ. Acad. Nat. Sci.*, v, new series, pp. 401–456.

1863. LEA, ISAAC—Continued.

Read before the Academy Natural Sciences, Phila., May 12, 1863. This, with No. 220, forms 222.

"It is not my intention here to redescribe the outward or hard parts—the exoskeleton—of those species which have been described, but simply the included *soft parts* of such as have come into my possession and have not heretofore been given."

"In my vols. i., ii., vi., vii., viii, and ix., taken from the Trans. Amer. Phil. Soc. and the Journal of the Acad. Nat. Sci., I have published descriptions of the soft parts of ninety-one species, which, with those herein described, will make two hundred and thirty-four."

Unio luteolus, Lam 402
Unio paulus, Lea 402
Trans. Amer. Philos. Soc., viii, pl. 15, fig. 29.
Unio Boykinianus, Lea 403
Trans. Amer. Philos. Soc., viii, pl. 13, fig. 22.
Unio alatus, Say 403
Unio nasutus, Say 403
Unio obesus, Lea 404
Trans. Amer. Philos. Soc., iv, pl. 13, fig. 26.
Unio Kleinianus, Lea 404
Trans. Amer. Philos. Soc., x, pl. 17, fig. 18.
Unio Dariensis, Lea 404
Trans. Amer. Philos. Soc., viii, pl. 26, fig. 61.
Unio angustatus, Lea 405
Trans. Amer. Philos. Soc., iv, pl. 17, fig. 43.
Unio decisus, Lea 405
Trans. Amer. Philos. Soc., iv, pl. 12, fig. 23.
Unio glans, Lea 405
Trans. Amer. Philos. Soc., iv, pl. 8, fig. 12.
Unio nitens, Lea 406
Trans. Amer. Philos. Soc., viii, pl. 12, fig. 19.
Unio anodontoides, Lea 406
Trans. Amer. Philos. Soc., iv, pl. 8, fig. 11.
Unio obtusus, Lea 406
Trans. Amer. Philos. Soc., viii, pl. 11, fig. 13.
Unio infucatus, Con 407
Unio lineatus, Lea 407
Trans. Amer. Philos. Soc., viii, pl. 12, fig. 20.
Unio limatulus, Con 407
Unio Barrattii, Lea 408
Trans. Amer. Philos. Soc., x, pl. 13, fig. 5.
Unio Sloatianus, Lea 408
Trans. Amer. Philos. Soc., viii, pl. 16, fig. 33.
Unio subangulatus, Lea 408
Trans. Amer. Philos. Soc., viii, pl. 13, fig. 23.
Unio incrassatus, Lea 409
Trans. Amer. Philos. Soc., viii, pl. 16, fig. 34.
Unio nigellus, Lea 409
Trans. Amer. Philos. Soc., x, pl. 24, fig. 42.
Unio tortivus, Lea 409
Trans. Amer. Philos. Soc., viii, pl. 12, fig. 17.
Unio fraternus, Lea 410
Trans. Amer. Philos. Soc., x, pl. 16, fig. 15.
Unio crassidens, Lam 410
Unio Conradianus, Lea 410
Trans. Amer. Philos. Soc., v, pl. 9, fig. 23.
Unio acutissimus, Lea 411
Trans. Amer. Philos. Soc., iv, pl. 10, fig. 18.
Unio strigosus, Lea 411
Trans. Amer. Philos. Soc., viii, pl. 9, fig. 9.
Unio radiatus, Lam 411
Unio complanatus=Mya complanata, Soland., MSS 412
Unio spinosus, Lea 413
Trans. Amer. Philos. Soc., vi, pl. 16, fig. 50.
Unio dolabræformis, Lea 413
Trans. Amer. Philos. Soc., vi, pl. 24, fig. 113.

1863. LEA, ISAAC—Continued.

Unio splendidus, Lea 414
Trans. Amer. Philos. Soc., vi, pl. 19, fig. 61.
Unio lugubris, Lea 414
Trans. Amer. Philos. Soc., vi, pl. 96, fig. 25.
Unio tenerus, Ravenel 415
Unio Shepardianus, Lea 415
Trans. Amer. Philos. Soc., v, pl. 13, fig. 38.
Unio Hopetonensis, Lea 415
Trans. Amer. Philos. Soc., vi, pl. 9, fig. 24.
Unio camptodon, Say, = *Sayii*, Tappan 416
Unio rubiginosus, Lea 416
Trans. Amer. Philos. Soc., iii, pl. 8, fig. 10.
Unio undulatus, Bar 417
Unio gibbosus, Bar 417
Unio exiguus, Lea 418
Trans. Amer. Philos. Soc., viii, pl. 7, fig. 1.
Unio striatus, Lea 418
Trans. Amer. Philos. Soc., viii, pl. 12, fig. 16.
Unio occidens, Lea 418
Trans. Amer. Philos. Soc., iii, pl. 10, fig. 16.
Unio iris, Lea 419
Trans. Amer. Philos. Soc., iii, pl. 11, fig. 18.
Unio Novi-Eboraci, Lea 419
Trans. Amer. Philos. Soc., vi, pl. 24, fig. 114.
Unio perplexus, Lea 420
Trans. Amer. Philos. Soc., iv, pl. 17, fig. 42.
Unio triangularis, Bar 420
Unio cylindricus, Say 421
Unio striatulus, Lea 421
Journ. Acad. Nat. Sci. (2), v, p. 55.
Unio monodontus, Say, = *soleniformis*, Lea 422
Unio patulus, Lea 422
Trans. Amer. Philos. Soc., iii, pl. 12, fig. 20.
Unio fabalis, Lea 423
Trans. Amer. Philos. Soc., iv (2), pl. 10, fig. 16.
Unio pressus, Lea 423
Trans. Amer. Philos. Soc. (2), iii, pl. 12, fig. 22.
Unio coccineus, Lea 423
Trans. Amer. Philos. Soc. (2), vi, pl. 5, fig. 12.
Unio spatulatus, Lea 424
Trans. Amer. Philos. Soc. (2), x, pl. 8, fig. 22.
Unio ligamentinus, Lam 424
Unio ebenus, Lea 424
Trans. Amer. Philos. Soc. (2), iv, pl. 9, fig. 14.
Unio lævissimus, Lea 425
Trans. Amer. Philos. Soc. (2), iii, pl. 13, fig. 23.
Unio tuberculatus, Bar 425
Unio Rangianus, Lea 426
Trans. Amer. Philos. Soc. (2), vi, pl. 18, fig. 56.
Unio multiradiatus, Lea 426
Trans. Amer. Philos. Soc. (2), iii, pl. 9, fig. 15.
Unio rectus, Lam 426
Unio verrucosus, Bar 427
Unio subrotundus, Lea 427
Trans. Amer. Philos. Soc. (2), iv, pl. 18, fig. 45.
Unio pustulosus, Lea 428
Trans. Amer. Philos. Soc. (2), iv, pl. 7, fig. 7.
Unio lens, Lea 428
Trans. Amer. Philos. Soc. (2), iv, pl. 8, fig. 10.
Unio trigonus, Lea 428
Trans. Amer. Philos. Soc. (2), iv, pl. 16, fig. 40.
Unio solidus, Lea 429
Trans. Amer. Philos. Soc. (2), vi, pl. 5, fig. 13.
Unio cornutus, Bar 429
Unio pustulatus, Lea 429
Trans. Amer. Philos. Soc. (2), iv, pl. 7, fig. 9.

1863. LEA, ISAAC—Continued.

Unio zigzag, Lea 430
Trans. Amer. Philos. Soc. (2), iii, pl. 12, fig. 19.
Unio Cooperianus, Lea 430
Trans. Amer. Philos. Soc. (2), v, pl. 8, fig. 21.
Unio mctanevrus, Raf 430
Unio orbiculatus, Hild 430
Unio plicatus, Lesueur, Say 431
Unio lacrymosus, Lea 431
Trans. Amer. Philos. Soc. (2), iii, pl. 6, fig. 8.
Unio securis, Lea 431
Trans. Amer. Philos. Soc. (2), iii, pl. 11, fig. 17.
Unio Æsopus, Green 432
Unio ellipsis, Lea 432
Trans. Amer. Philos. Soc., (2), iii, pl. 4, fig. 4.
Unio retulsus, Lam 433
Unio pyramidatus, Lea 433
Trans. Amer. Philos. Soc. (2), iv, pl. 16, fig. 39.
Unio irroratus, Lea 433
Trans. Amer. Philos. Soc. (2), iii, pl. 5, fig. 5.
Unio gracilis, Bar 434
Unio ovatus, Say 435
Unio Blandingianus, Lea 435
Trans. Amer. Philos. Soc., v, pl. 15, fig. 44.
Unio inflatus, Lea, = *Symphynota inflata*, Lea 335
Trans. Amer. Philos. Soc. (2), iv, pl. 14, fig. 28.
Unio purpuratus, Lam 436
Unio Claibornensis, Lea 436
Trans. Amer. Philos. Soc. (2), vi, pl. 24, fig. 115.
Unio trapezoides, Lea 436
Trans. Amer. Philos. Soc. (2), iv, pl, 3, fig. 1.
Unio asper, Lea 437
Trans. Amer. Philos. Soc. (2), iv, pl. 9, fig. 15.
Unio atrocostatus, Lea 437
Trans. Amer. Philos. Soc. (2), x, pl. 2, fig. 5.
Unio declivis, Say 437
Unio circulus, Lea 438
Trans. Amer. Philos. Soc. (2), iii, pl. 9, fig. 14.
Unio crocatus, Lea 438
Trans. Amer. Philos. Soc. (2), viii, pl. 22, fig. 52.
Unio castanus, Lea 439
Trans. Amer. Philos. Soc. (2), iv, pl. 11, fig. 21.
Unio Nashvillensis, Lea 439
Trans. Amer. Philos. Soc. (2), v, pl. 14, fig. 43.
Unio nux, Lea 439
Trans. Amer. Philos. Soc. (2), x, pl. 24, fig. 43.
Unio penitus, Con 440
Unio dehiscens, Say, = (*oriens*, Lea) 440
Unio tenuissimus, Lea, = *Sympyanota tenuissima*, Lea 441
Trans. Amer. Philos. Soc. (2), iii, pl. 11, fig. 21.
Unio clavus, Lam 441
Unio obliguus, Lam. (= *undatus*, Bar.) 441
Unio obscurus, Lea 442
Trans. Amer. Philos. Soc. (2), vi, pl. 3, fig. 7.
Unio personatus, Say, = (*capillaris*, Lea) 442
Unio heterodon, Lea 442
Trans. Amer. Philos. Soc. (2), iii, pl. 8, fig. 11.
Unio ridibundus, Say (= *sulcatus*, Lea) 442
Unio foliatus, Hild 443
Unio subgibbosus, Lea 443
Journ. Acad. Nat. Sci. (2), iv, pl. 6, fig. 36.
Unio fibuloides, Lea 443
Journ. Acad. Nat. Sci. (2), iv, pl. 28, fig. 100
Unio Foremanianus, Lea 443
Trans. Amer. Philos. Soc. (2), viii, pl. 27, fig. 64.
Unio compactus, Lea 444
Journ. Acad. Nat. Sci. (2), iv, pl. 28, p. 98.

1863. LEA, ISAAC—Continued.

Unio Tuomeyi, Lea 444
Trans. Amer. Philos. Soc. (2), x, pl. 13, fig. 4.
Unio Abbevillensis, Lea 445
Journ. Acad. Nat. Sci. (2), iv, p. 51.
Unio Emmonsii, Lea 445
Journ. Acad. Nat. Sci. (2), v, p. 56.
Margaritana rugosa, = *Alasmodonta rugosa*, Bar 446
Margaritana marginata, = *Alasmodonta marginata*, Say 446
Margaritana arcula, Lea 447
Trans. Amer. Philos. Soc., vi, pl. 22, fig. 69.
Margaritana Hildrethiana, Lea 447
Trans. Amer. Philos. Soc., v, pl. 3, fig. 8.
Margaritana deltoidea, Lea 448
Trans. Amer. Philos. Soc. (2), vi, pl. 13, fig. 38.
Margaritana confragosa, = *Alasmodonta confragosa*, Say 448
Margaritana complanata, = *Alasmodonta complanata*, Barnes 448
Anodonta subcylindracea, Lea 449
Trans. Amer. Philos. Soc., vi, pl. 24, fig. 117.
Anodonta imbecilis, Say 449
Anodonta undulata, Say 450
Anodonta Fcrussaciana, Lea 451
Trans. Amer. Philos. Soc. (2), v, pl. 6, fig. 15.
Anodonta Couperiana, Lea 451
Trans. Amer. Philos. Soc. (2), viii, pl. 20, fig. 46.
Anodonta plana, Lea 452
Trans. Amer. Philos. Soc. (2), pl. 7, fig. 18.
Anodonta decora, Lea 452
Trans. Amer. Philos. Soc. (2), vi, pl. 20, fig. 63.
Anodonta ovata, Lea 452
Trans. Amer. Philos. Soc. (2), v, pl. 2, fig. 2.
Anodonta edentula, = *Alasmodonta*, Say 453
Anodonta Wahlamatensis, Lea 453
Trans. Amer. Philos. Soc. (2), vi, pl. 20, fig. 64.
Anodonta gigantea, Lea 454
Trans. Amer. Philos. Soc. (2), vi, pl. 1, fig. 1.
Anodonta Oregonensis, Lea 454
Trans. Amer. Philos. Soc. (2), vi, pl. 21, fig. 67.
Anodonta fragilis, Lam 455
Supplement 455–456
Unio ochraceus, Say 455
Unio Fisherianus, Lea 456
Trans. Amer. Philos. Soc. (2), vi, pl. 4, fig. 8.

222.

1863. LEA, ISAAC. Observations | on the | Genus Unio, | together with | Descriptions of New Species, their Soft Parts, and Embryonic Forms, | in the | Family Unionidæ. | Read before the Academy of Natural Sciences of Philadelphia, and | Published in their Journal. | by | Isaac Lea, LL. D., | President of the Academy of Natural Sciences of Philadelphia, Etc., Etc. | with ten plates. | Vol. 10. | Philadelphia: | Printed for the author. 4to, pp. 94, with the plates of the Journ. Acad. Nat. Sci., 2d series, Vol. v, plates 41–50.

This consists of Nos. 220 and 221.

223.

1864. LEA, ISAAC. Description of a new Genus of the Family *Melanidæ*. <*Proc. Acad. Nat. Sci., Phila.*, xvi, pp. 2–3. January, 1864.

Read before the Academy Natural Sciences January 12, 1864, and ordered to be published in the Proceedings January 26, 1864. This forms part of No. 236.

MESESCHIZA, Lea, n. g 2
Meseschiza Grosvenorii, Lea, n. s 2
Wabash River, Indiana, H. C. Grosvenor.
Journ. Acad. Nat. Sci., vi, 1866, p. 152.

224.

1864. LEA, ISAAC. Descriptions of eleven new indigenous Species of *Melanidæ*. <*Proc. Acad. Nat. Sci., Phila.*, xvi, pp. 3–5. January, 1864.

Read before the Academy of Natural Sciences January 12, 1864, and ordered to be published in the Proceedings January 26, 1864. This forms part of No. 236.

Goniobasis Emeryensis, Lea, n. s 3
Rocky Creek, head branch of Emery Run, E. Tennessee, Maj. S. S. Lyon.
Journ. Acad. Nat. Sci., vi, 1866, p. 137.

Goniobasis umbonata, Lea, n. s 3
Smith's Shoals, Cumberland River, E. Tennessee, Maj. S. S. Lyon.
Journ. Acad. Nat. Sci., vi, 1866, p. 150, under the name of *Eurycælon umbonatum*.

EURYCÆLON, Lea, n. s. g 3
Ευρυς, amplus, and Κοιλον, cavitas.

Goniobasis Albanyensis, Lea, n. s 4
Near Albany and Blue Springs, Baker Co., Georgia, Rev. G. White.
Journ. Acad. Nat. Sci., vi, 1866, p. 141.

Goniobasis viridostriatis, Lea, n. s 4
Flint River, Georgia, Bishop Elliott and Mr. Gesner.
Journ. Acad. Nat. Sci., vi, 1866, p. 140, under the name *G. viridistriata*.

Trypanostoma subrobustum, Lea, n. s 4
Holston River at Knoxville, E. Tennessee, Maj. S. S. Lyon.
Journ. Acad. Nat. Sci., vi, 1866, p. 141.

Trypanostoma Roanensis, Lea, n. s 4
Roane Co., E. Tennessee, Maj. S. S. Lyon.
Journ. Acad. Nat. Sci., vi, 1866, p. 142.

Trypanostoma Lesleyi, Lea, n. s 4
East Tennessee, Professor Frost; Smith's Shoals, Cumberland River, E. Tenn., Maj. S. S. Lyon; Pulaski Co., Kentucky, Joseph Lesley, C. E.
Journ. Acad. Nat. Sci., vi, 1866, p. 146.

Trypanostoma affine, Lea, n. s 4
Smith's Shoals, Cumberland River, E. Tenn., Maj. S. S. Lyon.
Journ. Acad. Nat. Sci., vi, 1866, p. 145.

Trypanostoma cylindraceum, Lea, n. s 4
Roane Co., E. Tenn., Maj. S. S. Lyon.
Journ. Acad. Nat. Sci., vi, 1866, p. 142.

Trypanostoma carinatum, Lea, n. s 4
Bull Run, tributary to Clinch River, E. Tennessee, Maj. S. S. Lyon.
Journ. Acad. Nat. Sci., vi, 1866, p. 148.

Strephobasis Lyonii, Lea, n. s 5
Holston River at Knoxville, E. Tennessee, Maj. S. S. Lyon.
Journ. Acad. Nat. Sci., vi, 1866, p. 151.

225.

1864. LEA, ISAAC. Description of and Remarks on *Planorbis Newberryi*. <*Proc. Acad. Nat. Sci., Phila.*, xvi, p. 5. January, 1864.

Read before the Academy Natural Sciences January 12, 1864, and ordered to be published in the Proceedings January 26, 1864. This forms part of No. 236.

Planorbis Newberryi, Lea, n. s 5
Klamath Lake and Canoe Creek, California, J. S. Newberry, M. D.

226.

1864. LEA, ISAAC. Descriptions of six New Species of Unionidæ from Lake Nyassa, Central Africa, &c. <*Proc. Acad. Nat. Sci., Phila.*, xvi, pp. 108–109. April, 1864.

Read before the Academy Natural Sciences April 12, 1864, and ordered to be published April 25, 1864. This forms part of No. 236.

Unio Kirkii, Lea, n. s 108
Lake Nyassa, Central Africa, John Kirk, M. D., of the Zambezi Expedition.
Journ. Acad. Nat. Sci., vi, 1866, p. 32.

Unio Nyassaensis, Lea, n. s 108
Lake Nyassa, Central Africa, John Kirk, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 33.

1864. LEA, ISAAC—Continued.

Unio Aferula, Lea, n. s 109
Lake Nyassa, Africa, John Kirk, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 34.

Spatha alata, Lea, n. s 109
Lake Nyassa, Africa, John Kirk, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 35.

Spatha Nyassaensis, Lea, n. s 109
Lake Nyassa, Africa, John Kirk, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 36.

Spatha modesta, Lea, n. s 109
Fresh-waters near Mozambique, Africa, John Kirk, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 37.

227.

1864. LEA, ISAAC. Description of six new species of SUCCINEA of the United States. <*Proc. Acad. Nat. Sci., Phila.*, xvi, pp. 109–111.

Read before the Academy Natural Sciences April 12, 1864, and ordered to be published April 25, 1864. This forms part of No. 236.

Succinea Haleana, Lea, n. s 109
Alexandria, La., J. Hale, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 180, under the name *S. Halei.*

Succinea Grosvenorii, Lea, n. s 109
Santa Rita Valley, Kans.? H. C. Grosvenor; Alexandria, La., J. Hale, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 179.

Succinea Mooresiana, Lea, n. s 109
Court House Rock, on Platte River, California route, Mr. H. Moores.
Journ. Acad. Nat. Sci., vi, 1866, p. 179.

Succinea Wilsonii, Lea, n. s 109
Near Darien, Ga., S. W. Wilson, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 177.

Succinea Forsheyi, Lea, n. s 109
Rutersville, Tex., Prof. C. G. Forshey.
Journ. Acad. Nat. Sci., vi, 1866, p. 178.

Succinea pellucida, Lea, n. s 110
United States.
Journ. Acad. Nat. Sci., vi, 1866, p. 178.

Discussion upon Dr. Binney's treatment of the following eight species of Succinea. 110–111
Journ. Acad. Nat. Sci., vi, 1866, pp. 180–182.

Succinea operta, Lea 110

Succinea aurea, Lea 110

Succinea retusa, Lea 110

Succinea Wardiana, Lea 111

Succinea Totteniana, Lea 111

Succinea Nuttalliana, Lea 111

Succinea Oregonensis, Lea 111

Succinea inflata, Lea 111

228.

1864. LEA, ISAAC. Description of a new Species of PLANORBIS. <*Proc. Acad. Nat. Sci., Phila.*, xvi, p. 111. April, 1864.

Read before the Academy of Natural Sciences April 19, 1864. Ordered to be published April 25, 1864. This forms part of No. 236.

Planorbis Billingsii, Lea, n. s 111
Ottawa River, Canada West, E. Billings, esq.
Journ. Acad. Nat. Sci., vi, 1866, p. 159.

229.

1864. LEA, ISAAC. Descriptions of Thirteen New Species of MELANIDÆ of the United States. <*Proc. Acad. Nat. Sci., Phila.*, xvi, pp. 111–113. April, 1864.

Read before the Academy Natural Sciences April 12, 1864. Ordered to be published April 25, 1864. This forms part of No. 236.

1864. LEA, ISAAC—Continued.

Goniobasis subrhombica, Lea, n. s 111
Hog Creek, North Georgia, J. Clark.
Journ. Acad. Nat. Sci., vi, 1866, p. 132.

Goniobasis fraterna, Lea, n. s 111
Bibb Co. and Cahawba River, Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 139.

Goniobasis Romæ, Lea, n. s 111
Rome, North Georgia, Rev. G. White.
Journ. Acad. Nat. Sci., vi, 1866, p. 129.

Goniobasis quadricincta, Lea, n. s 112
Coosa and Cahawba River, Alabama, E. R. Showalter, M. D.; East Tennessee and North Georgia, Bishop Elliott.
Journ. Acad. Nat. Sci., vi, 1866, p. 131.

Goniobasis Smithsoniana, Lea, n. s 112
North Georgia, Smithsonian Inst. and East Tenn., Bishop Elliott.
Journ. Acad. Nat. Sci., vi, 1866, p. 137.

Goniobasis pulla, Lea, n. s 112
Cumberland Gab, East Tenn., Maj. S. S. Lyon.
Journ. Acad. Nat. Sci., vi, 1866, p. 130.

Goniobasis pupæformis, Lea, n. s 112
Coosa River, Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 130.

Trypanostoma venustum, Lea, n. s 112
Big Prairie Creek, Alabama, Dr. Showalter.
Journ. Acad. Nat. Sci., vi, 1866, p. 151.

Trypanostoma cinctum, Lea, n. s 112
North Alabama, Professor Tuomey.
Journ. Acad. Nat. Sci., vi, 1866, p. 147.

Trypanostoma univittata, Lea, n. s 112
Cahawba River, Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 145.

Trypanostoma corneum, Lea, n. s 112
Tennessee, J. G. Anthony.
Journ. Acad. Nat. Sci., vi, 1866, p. 148.

Trypanostoma napoidcum, Lea, n. s 112
Tennessee, Professor Troost.
Journ. Acad. Nat. Sci., vi, 1866, p. 143.

Schizostoma Showalterii, Lea, n. s 112
Coosa River, Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 149.

230.

1864. LEA, ISAAC. Description of five new Species of Lymnæa of North America. <*Proc. Acad. Nat. Sci. Phila.*, xvi, 1864, p. 113. April, 1864.

Read before the Academy of Natural Sciences April 19, 1864. Ordered to be printed April 25, 1864. This forms part of No. 236.

Lymnæa Smithsoniana, Lea, n. s 113
Loup Fork of Platte River, F. V. Hayden, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 161.

Lymnæa Traskii, Lea, n. s 113
San Antonio, Arroya, John B. Trask, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 162, under the name of *Lymnæa Tryoniana*.

Lymnæa Jamesii, Lea, n. s 113
Ponds near Cincinnati, Ohio, U. P. James, esq.; and La Fayette, Walker Co., Georgia, Rev. G. White.
Journ. Acad. Nat. Sci., vi, 1866, p. 161.

Lymnæa Lecontii, Lea, n. s 113
Georgia, Major John Le Conte.
Journ. Acad. Nat. Sci., vi, 1866, p. 162.

Lymnæa Arctica, Lea, n. s 113
Moose River of Hudson's Bay, Smithsonian Institution.
Journ. Acad. Nat. Sci., vi, 1866, p. 160.

231.

1864. LEA, ISAAC. Descriptions of two new Species of Unionidæ from South Africa. <*Proc. Acad. Nat. Sci., Phila.*, xvi, p. 113. April, 1864.

Read before the Academy of Natural Sciences April 19, 1864. Ordered to be published April 25, 1864. This forms part of No. 236.

Spatha Natalensis, Lea, n. s 113
Umpingavo River, Port Natal, South Africa, Rev. J. McKen.
Journ. Acad. Nat. Sci., vi, 1866, p. 64.

Unio Natalensis, Lea, n. s. 113
Umpingavo River, Port Natal, South Africa, Rev. J. McKen.
Journ. Acad. Nat. Sci., vi, 1866, p. 59.

232.

1864. LEA, ISAAC. Descriptions of Twenty-four new Species of PHYSA of the United States and Canada. <*Proc. Acad. Nat. Sci., Phila.*, xvi, pp. 114–116. April, 1864.

Read before the Academy of Natural Sciences April 19, 1864, and ordered to be published April 25, 1864. This forms part of No. 236.

Physa Niagarensis, Lea, n. s 114
Niagara River, N. Y.
Journ. Acad. Nat. Sci., vi, 1866, p. 173.

Physa Altonensis, Lea, n. s 114
Alton, Illinois, Henry Lea.
Journ. Acad. Nat. Sci., vi. 1866, p. 164.

Physa crocata, Lea, n. s 114
Lafayette, Walker Co., Ga., Rev. G. White.
Journ. Acad. Nat. Sci., vi, 1866, p. 169.

Physa Forshcyi, Lea, n. s 114
Near Rutersville, Texas, Prof. C. G. Forshey.
Journ. Acad. Nat. Sci., vi, 1866, p. 172.

Physa tenuissima, Lea, n. s 114
Alexandria, La., J. Hale, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 167.

Physa Halei, Lea, n. s 114
Alexandria, La., J. Hale, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 165.

Physa Febigerii, Lea, n. s 114
Logan Co., Ohio, Major G. L. Febiger.
Journ. Acad. Nat. Sci., vi, 1866, p. 174.

Physa Nicklinii, Lea, n. s 114
Callaghan's, Alleghany Co., Va., P. H. Nicklin, Esq.
Journ. Acad. Nat. Sci., vi, 1866, p. 175.

Physa Grosvenorii, Lea, n. s 114
Santa Rita Valley, Kansas, ? Mr. H. C. Grosvenor.
Journ. Acad. Nat. Sci., vi, 1866, p. 175.

Physa Whitei, Lea, n. s 114
Lafayette, Walker Co., Ga., Rev. G. White; Verdigris River, Kansas, F. Hawn.
Journ. Acad. Nat. Sci., vi, 1866, p. 172.

Physa Saffordii, Lea, n. s 115
Lebanon, Wilson Co., Tenn., J. M. Safford; Verdigris River, Kansas, F. Hawn; Nashville, Prof. Troost.
Journ. Acad. Nat. Sci., vi, 1866, p. 167.

Physa Hawnii, Lea, n. s. 115
Verdigris River, Kansas, F. Hawn.
Journ. Acad. Nat. Sci., vi, 1866, p. 165.

Physa anatina, Lea, n. s. 115
Northern Tributary Arkansas River, Kansas, F. Hawn.
Journ. Acad. Nat. Sci., vi, 1866, p. 171.

Physa parva, Lea, n. s 115
Verdigris River and Rock Creek, Kansas, F. Hawn.
Journ. Acad. Nat. Sci., vi, 1866, p. 177.

Physa Showalterii, Lea, n. s 115
Uniontown, Ala., E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 170.

1864. LEA, ISAAC—Continued.

Physa Smithsoniana, Lea, n. s 115
Loup Fork, Platte River, F. V. Hayden, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 169.

Physa Warreniana, Lea, n. s 115
Loup Fork, Platte River, F. V. Hayden, M. D.; Milwaukee, Wisconsin, H. C. Gros venor; Grand Rapids, Michigan, A. O. Currier.
Journ. Acad. Nat. Sci., vi, 1866, p. 164.

Physa Traskii, Lea, n. s 115
Rio Los Angelos, California, J. B. Trask, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 163.

Physa striata, Lea, n. s 115
Salt Lagoon, near Monterey, Cal., J. B. Trask, M. D.
Journ. Acad. Nat. Sci., vi, 1866, p. 166, under the name of *P. D'orbigniana*.

Physa Blandii, Lea, n. s 116
California, Mr. Thomas Bland.
Journ. Acad. Nat. Sci., vi, 1866, p. 168.

Physa Nuttallii, Lea, n. s 116
Lewis' River, Oregon, Prof. Thomas Nuttall.
Journ. Acad. Nat. Sci., vi, 1866, p. 171.

Physa venusta, Lea, n. s 116
Near Fort Vancouver, Oregon, Sir George Simpson.
Journ. Acad. Nat. Sci., vi, 1866, p. 168.

Physa hordacea, Lea, n. s 116
Vancouver Island, Oregon, Sir George Simpson.
Journ. Acad. Nat. Sci., vi, 1866, p. 176.

Physa brevispira, Lea, n. s 116
Ottawa River, Canada West, E. Billings, esq.
Journ. Acad. Nat. Sci., vi, 1866, p. 173.

233.

1864. LEA, ISAAC. Description of Six new species of Western Asiatic Unionidæ. <*Proc. Acad. Nat. Sci., Phila.*, xvi, pp. 285–286. December, 1864.

Read before the Academy of Natural Sciences December 20, 1864, and ordered to be published December 27, 1864. This forms part of No. 236.

The portion here printed consists only of the Latin descriptions of the species, with mention of the habitat of each. The full paper will be found in "*Journ. Acad. Nat. Sci., Phila.*", vi, 1868, pp. 249–255, and in "Observations on the Genus Unio," vol. xii, 1869, pp. 9–15.

Unio Homsensis, Lea, n. s 285
Lake Homs (ancient Emesa), River Orontes, North Syria, C. M. Wheatley.
Journ. Acad. Nat. Sci., vi, 1868, p. 249.

Unio Kullethensis, Lea, n. s 285
Near Mardin, in a stream from Kulleth falling into the Tigris, Asia, C. M. Wheatley.
Journ. Acad. Nat. Sci., vi, 1868, p. 251.

Unio Orphaensis, Lea, n. s 285
Tigris River, near Mardin Pashalic of Orpha, Asiatic Turkey, C. M. Wheatley.
Journ. Acad. Nat. Sci., vi, 1868, p. 250.

Unio Mardinensis, Lea, n. s 286
Tigris River, near Mardin, Asiatic Turkey, C. M. Wheatley.
Journ. Acad. Nat. Sci., vi, 1868, p. 252.

Unio Emesaensis, Lea, n. s 286
Lake Homs, River Orontes, North Syria, C. M. Wheatley.
Journ. Acad. Nat. Sci., vi, 1868, p. 254.

Monocondylæa Mardinensis, Lea, n. s 286
Near Mardin, in a stream falling into the Tigris River, Asia, C. M. Wheatley.
Journ. Acad. Nat. Sci., vi, 1868, p. 252.

234.

1865. LEA, ISAAC. Descriptions of three new species of Exotic Unionidæ. <*Proc. Acad. Nat. Sci., Phila.*, xvii, pp. 75–76. April, 1865.

Read before the Academy of Natural Sciences April 18, 1865, and ordered to be published April 25, 1865. This forms part of No. 236.

The full notes upon the species are found in the *Journ. Acad. Nat. Sci., Phila.*, vi, 1868, pp. 282–287, and in Observations upon the Genus Unio, vol. xii, 1869, pp. 42–47.

1865. LEA, ISAAC—Continued.

Unio Wrightii, Lea, n. s. 75
China, A. R. Wright, M. D.
Journ. Acad. Nat. Sci., 1868, p. 283.

Unio tortuosus, Lea, n. s. 76
China, A. R. Wright, M. D.
Journ. Acad. Nat. Sci., vi, 1868, p. 286.

Unio rufofuscus, Lea, n. s. 76
—— ? Sig. Patricio Maria Paz.
Journ. Acad. Nat. Sci., vi, 1868, p. 282.

235.

1865. LEA, ISAAC. Descriptions of Eight new species of Unio of the United States. <*Proc. Acad. Nat. Sci., Phila.*, xvii, pp. 88–89. May, 1865.

Read before the Academy of Natural Sciences May 16, 1865, and ordered to be published May 30, 1865. This forms part of No. 236.

This consists only of the Latin descriptions of the species, with mention of the habitat of each species. The full paper will be found in "*Journ. Acad. Nat. Sci., Phila.*," vi, 1868, pp. 255–262, and in "Observations on the Genus Unio," xii, 1869, pp. 15–22.

Unio doliaris, Lea, n. s. 88
Etowah River, Georgia, Rev. G. White.
Journ. Acad. Nat. Sci., vi, 1868, p. 260.

Unio protensus, Lea, n. s. 88
North Carolina, Prof. E. Emmons.
Journ. Acad. Nat. Sci., vi, 1868, p. 256.

Unio punctatus, Lea, n. s. 89
Caney Fork, Tennessee, Dr. Edgar; and Tuscumbia, Alabama, B. Pybas.
Journ. Acad. Nat. Sci., vi, 1868, p. 261.

Unio amabilis, Lea, n. s. 89
Butler, Taylor Co., Georgia, H. M. Neisler.
Journ. Acad. Nat. Sci., 1868, p. 257.

Unio Lyonii, Lea, n. s. 89
East Tennessee, Major S. S. Lyon, U. S. E.
Journ. Acad. Nat. Sci., 1868, p. 259.

Unio proprius, Lea, n. s. 89
Lafayette, Georgia, Rev. G. White.
Journ. Acad. Nat. Sci., 1868, p. 256.

Unio Cromwellii, Lea, n. s. 89
Kiokee Creek, near Albany, Dougherty Co., Georgia, B. M. Cromwell, M. D.
Journ. Acad. Nat. Sci., vi, 1868, p. 258.

Unio marginis, Lea, n. s. 89
Blue Springs, Dougherty Co., Georgia, Bishop Elliott.
Journ. Acad. Nat. Sci., 1868, p. 255.

236.

1866. LEA, ISAAC. On | Leaia Leidyi=Cypricardia Leidyi. | Descriptions of Fourteen New Species of Melanidæ. | Descriptions of Eleven New Species of Exotic | Unionidæ. | Descriptions of Twenty-four New Species of Unionidæ. | Descriptions of a New Species of Unio and a Mono- | condylœa. | Description of a New Genus of the Family Melanidæ. | Descriptions of Eleven New Species of Melanidæ. | Description of & Remarks on Planorbis Newberryi. | Descriptions of Six New Species of Unionidæ from | Lake Nyassa. | Descriptions of Six New Species of Succinea, Etc. | Descriptions of Thirteen New Species of Melanidæ. | Description of a New Species of Planorbis. | Descriptions of Five New Species of Lymnea. | Descriptions of Two New Species of Unionidæ, from | South Africa. | Descriptions of Twenty-four New Species of Physa. | Descriptions of Six New Species of Western Asiatic | Unionidæ. | Descriptions of Three New Species of Exotic Uniones. | Descriptions of Eight New Species of Unio. | by | Isaac Lea, LL. D. | — | Philadelphia: | Merrihew & Son, Printers, | No. 243 Arch Street. | 1866. 8°. pp. 32.

Extracts from the Proceedings Academy Natural Sciences, Phila.

This consists of Nos. 216, 217, 218, 219, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, and 235.

237.

1866. LEA, ISAAC. Appendix IV. [to Bibliography of North American Conchology, Previous to the year 1860, by W. G. Binney.] <*Smithsonian Miscellaneous Collections*, ix, 1866, pp. 289–294.

Separate as follows:

Tables | of the | Rectification of Mr. T. A. Conrad's | "Synopsis of the Family of Naiades of North America." | by Isaac Lea, LL. D. | — | Philadelphia: | Collins, Printer, 705 Jayne Street. | 1866. 8°. pp. 289–294 Pamphlet.

This is an exact reprint of the tables contained in No. 101.

238.

1866. LEA, ISAAC. Description of twelve new species of Unionidæ from South America. <*Proc. Acad. Nat. Sci., Phila.*, xviii, pp. 33–35.

Read before the Academy of Natural Sciences March 20, 1866, and ordered to be published March 27, 1866.

This forms part of No. 256.

The full notes on the species will be found in *Journ. Acad. Nat. Sci., Phila.*, vi, 1868, pp. 262–275, and "Observations on the Genus Unio," vol. xii, 1869, pp. 22–35.

The species described in this paper were procured in South America by Don Patricio M. Paz, of Madrid.

Unio peculiaris, Lea, n. s. 33
South America, Don Patricio M. Paz.
Journ. Acad. Nat. Sci., vi, 1868, p. 265.

Unio firmus, Lea, n. s 33
South America, Don Patricio M. Paz.
Journ. Acad. Nat. Sci., vi, 1868, p. 267.

Unio rugoscsulcatus, Lea, n. s 33
Central America, ? Don Patricio M. Paz.
Journ. Acad. Nat. Sci., vi, 1868, p. 266.

Unio apprimus, Lea, n. s 34
South America, Don Patricio M. Paz.
Journ. Acad. Nat. Sci., vi, 1868, p. 263.

Unio locellus, Lea, n. s 34
Buenos Ayres, S. Amer., Don Patricio M. Paz.
Journ. Acad. Nat. Sci., vi, 1868, p. 264.

Unio parcus, Lea, n. s 34
South America, Don Patricio M. Paz.
Journ. Acad. Nat. Sci., 1868, p. 262.

Unio acutirostris, Lea, n. s 34
South America, Don Patricio M. Paz.
Journ. Acad. Nat. Sci., vi, 1868, p. 270.

Unio ampullaceus, Lea, n. s 34
South America, Don Patricio M. Paz.
Journ. Acad. Nat. Sci., vi, 1868, p. 269.

Unio Paraguayensis, Lea, n. s 34
Paraguay, South America, Don Patricio M. Paz.
Journ. Acad. Nat. Sci., vi, 1868, p. 271.

Monocondylæa lentiformis, Lea, n. s 34
South America, Don Patricio M. Paz.
Journ. Acad. Nat. Sci., vi, 1868, p. 272.

Monocondylæa Pazii, Lea, n. s 34
South America, Don Patricio M. Paz.
Journ. Acad. Nat. Sci., vi, 1868, p. 273.

Anodonta Pazii, Lea, n. s. 35
South America, Don Patricio M. Paz.
Journ. Acad. Nat. Sci., vi, 1868, p. 274.

239.

1866. LEA, ISAAC. Notes on Some Members of the Feldspar Family. <*Proc. Acad. Nat. Sci., Phila.*, xviii, pp. 110–113. Separate without cover, pp. 4.

Read before the Academy of Natural Sciences May 1, 1866, and ordered to be published May 29, 1866.

This forms part of No. 256.

240.

1866. LEA, ISAAC. Description of five New Species of the Genus Unio. <*Proc. Acad. Nat. Sci., Phila.*, xviii, p. 133.

Read before the Academy of Natural Sciences May 15, 1866, and ordered to be published May 29, 1866.

This forms part of No. 256.

The portion printed here consists of the Latin descriptions of the species with the habitat of each. The full remarks upon the species will be found in "*Journ. Acad. Nat. Sci., Phila.*, vol. vi, 1868, and "Observations on the genus Unio," vol. xii, 1869.

Unio Siamensis, Lea, n. s 133
Siam, C. M. Wheatley.
Journ. Acad. Nat. Sci., 1868, p. 279.

Unio asperulus, Lea, n. s 133
Siam, Thomas R. Ingalls, M. D.
Journ. Acad. Nat. Sci., 1868, p. 280.

Unio pilatus, Lea, n. s 133
Siam, Thomas R. Ingalls, M. D.
Journ. Acad. Nat. Sci., 1868, p. 281.

Unio vitatus, Lea, n. s 133
Bengal, W. A. Haines.
Journ. Acad. Nat. Sci., vi, 1868, p. 279.

Unio Strebelii, Lea, n. s 133
Vera Cruz, Mexico, G. Strebel.
Journ. Acad. Nat. Sci., vi, 1868, p. 318.

241.

1866. LEA, ISAAC. Description of two New Species of the Genus Lithasia. <*Proc. Acad. Nat. Sci., Phila.*, xviii, p. 133.

Read before the Academy of Natural Sciences May 15, 1866, and ordered to be published May 29, 1866.

This forms part of No. 256.

Latin descriptions with mention of habitat.

Lithasia cylindrica, Lea, n. s 133
Coosa River, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci, vi, 1868, p. 341.

Lithasia Wheatleyi, Lea, n. s 133
Cahaba River, Alabama, E. R. Showalter, M. D.
Journ. Acad. Nat. Sci., vi, 1868, p. 341.

242.

1866. LEA, ISAAC. New Unionidæ, Melanidæ, etc., chiefly of the United States. <*Journ. Acad. Nat. Sci., Phila.*, vi, pp. 5–65, with plates 1 to 21 inclusive.

See No. 219.

(See Journ. Acad. Nat. Sci., Phila., vi, p. 3.)

This with No. 243 forms 244.

The place where the Latin description is first published is given after each species.

Unio quadrilaterus, Lea, pl. 1, fig. 1 5
Proc. Acad. Nat. Sci., 1863, p. 192.

Unio Raleighensis, Lea, pl. 1, fig. 2 6
Proc. Acad. Nat. Sci., 1863, p. 191.

Unio aberrans, Lea, pl. 1, fig. 3 7
Proc. Acad. Nat. Sci., 1863, p. 191.

Unio pertenuis, Lea, pl. 2, fig. 4 8
Proc. Acad. Nat. Sci., 1863, p. 193.

Unio Charlottensis, Lea, pl. 2, fig. 5 8
Proc. Acad. Nat. Sci., 1863, p. 191.

Unio lucidus, Lea, pl. 2, fig. 6 9
Proc. Acad. Nat. Sci., 1863, p. 192.

Unio viridulus, Lea, pl. 3, fig. 7 10
Proc. Acad. Nat. Sci., 1863, p. 193.

Unio Weldoncnsis, Lea, pl. 3, fig. 8 11
Proc. Acad. Nat. Sci., 1863, p. 191.

Unio nasutulus, Lea, pl. 3, fig. 9 12
Proc. Acad. Nat. Sci., 1863, p. 192, as *U. nasutidus*.

1866. LEA, ISAAC—Continued.

Unio oblatus, Lea, pl. 4, fig. 10 13
Proc. Acad. Nat. Sci., 1863, p. 193, as *U. ablatus.*
Unio Livingstonensis, Lea, pl. 4, fig. 11 14
Proc. Acad. Nat. Sci., 1863, p. 192.
Unio indefinitus, Lea, pl. 4, fig. 12 15
Proc. Acad. Nat. Sci., 1863, p. 192, as *U. indefinitus.*
Unio perlatus, Lea, pl. 4, fig. 13 15
Proc. Acad. Nat. Sci., 1863, p. 193.
Unio Waccamawensis, Lea, pl. 5, fig. 14 15
Proc. Acad. Nat. Sci., 1863, p. 193.
Unio Mecklenbergensis, Lea, pl. 5, fig. 15 17
Proc. Acad. Nat. Sci., 1863, p. 191.
Unio perlucens, Lea, pl. 5, fig. 16 18
Proc. Acad. Nat. Sci., 1863, p. 193.
Unio cistellæformis, Lea, pl. 6, fig. 17 19
Proc. Acad. Nat. Sci., 1863, p. 192.
Unio Gastonensis, Lea, pl. 6, fig. 18 20
Proc. Acad. Nat. Sci., 1863, p. 191.
Unio Chathamensis, Lea, pl. 6, fig. 19 21
Proc. Acad. Nat. Sci., 1863, p. 191.
Unio squalidus, Lea, pl. 7, fig. 20 22
Proc. Acad. Nat. Sci., 1863, p. 192.
Unio curatus, Lea, pl. 7, fig. 21 23
Proc. Acad. Nat. Sci., 1863, p. 193.
Unio mediocris, Lea, pl. 7, fig. 22 24
Proc. Acad. Nat. Sci., 1863, p. 191.
Anodonta doliaris, Lea, pl. 8, fig. 23 24
Proc. Acad. Nat. Sci., 1862, p. 193, as *U. dolearis.*
Anodonta Leonensis, Lea, pl. 9, fig. 24 25
Proc. Acad. Nat. Sci., 1862, p. 169.
Anodonta Bealei, Lea, pl. 9, fig. 25 26
Proc. Acad. Nat. Sci., 1863, p. 194.
Anodonta Williamsii, Lea, pl. 10, fig. 26 27
Proc. Acad. Nat. Sci., 1862, p. 169.
Anodonta Tryonii, Lea, pl. 10, fig. 27 28
Proc. Acad. Nat. Sci., 1862, p. 169.
Anodonta Dallasiana, Lea, pl. 11, fig. 28 29
Proc. Acad. Nat. Sci., 1863, p. 190.
Monocondylæa compressa, Lea, pl. 11, fig. 29 30
Proc. Acad. Nat. Sci., 1863, p. 190.
Unio Kirkii, Lea, pl. 12, fig. 30 32
Proc. Acad. Nat. Sci., 1864, p. 108.
Unio Nyassaensis, Lea, pl. 12, fig. 32 23
Proc. Acad. Nat. Sci., 1864, p. 108.
Unio Aferulus, Lea, pl. 13, fig. 34 34
Proc. Acad. Nat. Sci., 1864, p. 109.
Spatha alata, Lea, pl. 12, fig. 31 35
Proc. Acad. Nat. Sci., 1864, p. 109.
Spatha Nyassaensis, Lea, pl. 13, fig. 33 36
Proc. Acad. Nat. Sci., 1864, p. 109.
Spatha modesta, Lea, pl. 13, fig. 35 37
Proc. Acad. Nat. Sci., 1864, p. 109.
Unio Thorntonii, Lea, pl. 14, fig. 36 38
Proc. Acad. Nat. Sci., 1857, p. 83.
Unio Mooresianus, Lea, pl. 14, fig. 37 39
Proc. Acad. Nat. Sci., 1857, p. 83.
Unio mundus, Lea, pl. 14, fig. 38 40
Proc. Acad. Nat. Sci., 1857, p. 83.
Unio tesserulæ, Lea, pl. 15, fig. 39 40
Proc. Acad. Nat. Sci., 1861, p. 392.
Unio crapulus, Lea, pl. 15, fig. 40 42
Proc. Acad. Nat. Sci., 1861, p. 39.
Unio crebrivittatus, Lea, pl. 15, fig. 41 43
Proc. Acad. Nat. Sci., 1861, p. 60.
Unio Leibii, Lea, pl. 15, fig. 42 44
Proc. Acad. Nat. Sci., 1862, p. 168.

1866. LEA, ISAAC—Continued.

Unio parvulus, Lea, pl. 16, fig. 43 45
Proc. Acad. Nat. Sci., xii, 1860, p. 307.
Unio purpurpurcus, Lea, pl. 16, fig. 44 46
Proc. Acad. Nat. Sci., 1861, p. 41.
Unio biemarginatus, Lea, pl. 16, fig. 45 47
Proc. Acad. Nat. Sci., 1857, p. 83.
Unio granulatus, Lea, pl. 16, fig. 46 48
Proc. Acad. Nat. Sci., 1861, p. 00, as *U. granulatis.*
Unio germanus, Lea, pl. 19, fig. 54 49
Proc. Acad. Nat. Sci., 1861, p. 40.
Unio rasus, Lea, pl. 17, fig. 47 50
Proc. Acad. Nat. Sci., 1863, p. 189.
Unio dignatus, Lea, pl. 17, fig. 48 51
Proc. Acad. Nat. Sci., 1863, p. 189.
Unio Mosulensis, Lea, pl. 17, fig. 49 52
Proc. Acad. Nat. Sci., 1863, p. 190.
Unio Orontesensis, Lea, pl. 18, fig. 50 53
Proc. Acad. Nat. Sci., 1863, p. 190.
Unio Bourguignatianus, Lea, pl. 18, fig. 51 54
Proc. Acad. Nat. Sci., 1863, p. 189.
Unio Damascensis, Lea, pl. 18, fig. 52 55
Proc. Acad. Nat. Sci., 1863, p. 190.
Unio Syriacus, Lea, pl. 19, fig. 53 56
Proc. Acad. Nat. Sci., 1863, p. 189.
Unio tripartitus, Lea, pl. 19, fig. 55 57
Proc. Acad. Nat. Sci., 1863, p. 190.
Unio delicatus, Lea, pl. 19, fig. 56 58
Proc. Acad. Nat. Sci., 1863, p. 189.
Unio Natalensis, Lea, pl. 20, fig. 57 59
Proc. Acad. Nat. Sci., 1864, p. 113.
Unio Paramattensis, Lea, pl. 20, fig. 59 60
Proc. Acad. Nat. Sci., 1862, p. 176.
Unio Pazii, Lea, pl. 21, fig. 60 61
Proc. Acad. Nat. Sci., 1862, p. 176.
Unio Laosensis, Lea, pl. 21, fig. 61 63
Proc. Acad. Nat. Sci., 1863, p. 190.
Spatha Natalensis, Lea, pl. 20, fig. 58 64
Proc. Acad. Nat. Sci., 1864, p. 113.
Monocondylæa Mouhotiana, Lea, pl. 21, fig. 62 65
Proc. Acad. Nat. Sci., 1863, p. 190, as *M. Mouhotii.*

243.

1866. LEA, ISAAC. New Unionidæ, Melanidæ, etc., chiefly of the United States. <*Journ. Acad. Nat. Sci., Phila.*, vi, pp. 113–187, with plates 22–24, inclusive.

Separate copies printed for the author December, 1866. Continuation of No. 242, and with it forms part of No. 244.

The places where the Latin description of each species was first published is shown after each species.

Ampullaria gracilis, Lea, pl. 22, fig. 1 113
Proc. Acad. Nat. Sci., 1856, p. 110.
Ampullaria turbinis, Lea, pl. 22, fig. 2 113
Proc. Acad. Nat. Sci., 1856, p. 110.
Ampullaria tubæformis, Lea, pl. 22, fig. 3 114
Proc. Acad. Nat. Sci., 1856, p. 110.
Ampullaria aurostoma, Lea, pl. 22, fig. 4 114
Proc. Acad. Nat. Sci., 1856, p. 110.
Paludina orientalis, Lea, pl. 22, fig. 5 115
Proc. Acad. Nat. Sci., 1856, p. 110, as *Paludina Chinensis.*
Paludina Hainesiana, Lea, pl. 22, fig. 6 115
Proc. Acad. Nat. Sci, 1856, p. 109.
Paludina Swainsoniana, Lea, pl. 22, fig. 7 116
Proc. Acad. Nat. Sci., 1856, p. 110.
Paludina umbilicata, Lea, pl. 22, fig. 8 117
Proc. Acad. Nat. Sci, 1856, p. 109.

1866. LEA, ISAAC—Continued.

Paludina Ingallsiana, Lea, pl. 22, fig. 9 117
Proc. Acad. Nat. Sci., 1856, p. 110.
Rivulina maculata, Lea, pl. 22, fig. 10 118
Proc. Acad. Nat. Sci., 1856, p. 110, under name of *Paludomus maculata*, Lea.
Bithinia Siamensis, Lea, pl. 22, fig. 11 118
Proc. Acad. Nat. Sci., 1856, p. 110.
Bithinia globula, Lea, pl. 22, fig. 12 119
Proc. Acad. Nat. Sci., 1856, p. 110.
Assiminea carinata, Lea, pl. 22, fig. 13 119
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Proc. Acad. Nat. Sci., 1858, p. 41.
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Proc. Acad. Nat. Sci., 1857, p. 102.
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Proc. Acad. Nat. Sci., 1857, p. 102.
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Proc. Acad. Nat. Sci., 1863, p. 156.

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1867. LEA, ISAAC. Observations | on the | Genus Unio, | together with | Descriptions of New Species in the Family Unionidæ, | and Descriptions of New Species of the | Melanidæ, Limneidæ, Paludinæ and Helicidæ, | read before the Academy of Natural Sciences of Philadelphia, and | published in their Journal, | by | Isaac Lea, LL. D., | Vice-President of the American Philosophical Society, etc. etc. | with twenty-four plates. | Vol. XI. | Philadelphia: | Printed for the author. 4°. pp. 146, with plates 1-24.

A Reprint of Nos. 242, 243.

245.

1867. LEA, ISAAC. Index | to Vol. I. to XI. of | Observations | on the | Genus Unio, | together with | Description of New Species of the Family Unionidæ | and | Descriptions of New Species of the Melanidæ, | Paludinæ, Helicidæ, Etc. | Read before the American Philosophical Society and the Academy of Natural | Sciences of Philadelphia, from 1827 to 1863. | by | Isaac Lea, LL. D., Etc. | Philadelphia: | Printed for the Author | by T. K. Collins, 705 Jayne Street. | 1867.

4°. pp. 63.

Deposited in the Library of the Academy of Natural Sciences, Phila., in 1867. (See *Proc. Acad. Nat. Sci.*, xix, p. 271.)

"Having constantly felt the inconvenience of reference to former papers issued in previous volumes of "Observations on the Genus Unio," &c., I determined, after issuing my eleventh volume, to have an *Index* for the whole, by way of easy reference to all my new species described therein, as well also to every species referred to; also to the soft parts and embryonic forms, thus making the whole more available to the student. My own time

1867. LEA, ISAAC—Continued.

being too much occupied with original investigations, I applied to my friend, James Lewis, M. D., of Mohawk, N. Y., whose thorough knowledge in this branch of Natural History is so well known. Many of the volumes already testify to his friendly aid from time to time—at once he acceded to my wishes, and the result is now, I believe, a perfect *Index*." Notice p. 3.

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Subsections—Unio, Anodonta.

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SECTION VIII—Miscellaneous and Unclassified References. Alphabetically arranged.

Errata et Corrigenda of Vols. I to XI.

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1867. LEA, ISAAC. On two New Minerals from Chester Co., Penn. <*Proc. Acad. Nat. Sci., Phila.*, xix, pp. 44–45. Separate, without cover, 8°, pp. 2.

Read before the Academy of Natural Sciences April 9, 1867, and ordered to be published April 30, 1867. This forms part of No. 256.

Lesleyite.

Pattersonite.

247.

1867. LEA, ISAAC. Descriptions of Five New Species of Unionidæ and One Paludina of the United States. <*Proc. Acad. Nat. Sci., Phila.*, xix, p. 81.

Read before the Academy of Natural Sciences May 21, 1867, and ordered to be printed May 28, 1867. This forms part of No. 256.

Unio Bissclianus, Lea, n. s. 81
Bissel's Pond, Charlotte, N. C., C. M. Wheatley.
Journ. Acad. Nat. Sci., 1868, p. 277.

Unio Clinchensis, Lea, n. s. 81
Clinch River, Tenn., Pres. Estabrook; and French Broad River, Dr. Edgar.
Journ. Acad. Nat. Sci., 1868, p. 278.

Unio Jewettii, Lea, n. s. 81
Florida, Col. Jewett.
Journ. Acad. Nat. Sci., vi, 1868, p. 276.

Margaritana Columbensis, Lea, n. s. 81
Tombigbee River, near Columbus, Miss., W. Spillman, M. D.

Anodonta Youconensis, Lea, n. s. 81
Headwaters of the Youcon, Arctic America.
Journ. Acad. Nat. Sci., vi, 1868, p. 287, spelled *Youkanensis*.

Paludina Spillmanii, Lea, n. s. 81
Jackson Co., Alabama, W. Spillman, M. D.
Journ. Acad. Nat. Sci., vi, 1868, p. 343.

248.

1868. LEA, ISAAC. Description of Nine Species of Unionidæ from Lake Nicaragua, Central America. <*Proc. Acad. Nat. Sci., Phila.*, xx, pp. 94–96. March, 1868.

Read before the Academy of Natural Sciences March 10, 1868, and ordered to be published March 31, 1868. This forms part of No. 256.

1868. LEA, ISAAC—Continued.

Remarks upon, with list of inequivalve, Unionidae 94–95

Unio Nicaraguensis, Lea, n. s 95
Lake Nicaragua, Central America, Mr. W. M. Gabb.
Journ. Acad. Nat. Sci., vi, 1868, p. 296.

Unio Granadensis, Lea, n. s 95
Lake Nicaragua, Central America, Col. E. Jewett & Mr. W. M. Gabb.
Journ. Acad. Nat. Sci., vi, 1868, p. 293.

Unio encarpus, Lea, n. s 95
Lake Nicaragua, Cent. America, Mr. W. M. Gabb.
Journ. Acad. Nat. Sci., vi, 1868, p. 294.

Unio Gabbianus, Lea, n. s 95
Lake Nicaragua, Cent. America, Col. E. Jewett and Mr. W. M. Gabb.
Journ. Acad. Nat. Sci., vi, 1868, p. 295.

Anodonta Bridgesii, Lea, n. s 95
Lake Nicaragua, Cent. America, Mr. Thomas Bridges.
Journ. Acad. Nat. Sci., vi, 1868, p. 291.

Anodonta inæquivalva, Lea, n. s 95
Lake Nicaragua, Cent. America, Mr. W. M. Gabb.
Journ. Acad. Nat. Sci., vi, 1868, p. 292.

Anodonta Jewettiana, Lea, n. s 95
Lake Nicaragua, Cent. America, Col. E. Jewett.
Journ. Acad. Nat. Sci., vi, 1868, p. 289, spelled Jewettii.

Anodonta lenticularis, Lea, n. s 95
Lake Nicaragua, Cent. Amer., Mr. W. M. Gabb.
Journ. Acad. Nat. Sci., vi, 1868, p. 290.

Anodonta Granadensis, Lea, n. s 96
Lake Nicaragua. Cent. America, Col. E. Jewett.
Journ. Acad. Nat. Sci., vi, 1868, p. 288.

249.

1868. LEA, ISAAC. Description of Sixteen New Species of the Genus Unio of the United States. <*Proc. Acad. Nat. Sci., Phila.*, xx, pp. 143–145. April, 1868.

Read before the Academy of Natural Sciences April 7, 1868, and ordered to be published April 28, 1868. This forms part of No. 256.

Unio Murrayensis, Lea, n. s 143
Murray County, Georgia, Maj. T. C. Downie; Etowah River, Georgia, Bishop Elliott.
Journ. Acad. Nat. Sci., vi, 1868, p. 303.

Unio fassinans, Lea, n. s 143
Headwaters of Holston River, Washington Co., Va., Prof. E. D. Cope.
Journ. Acad. Nat. Sci., vi, 1868, p. 305.

Unio sparus, Lea, n. s 143
Swamp Creek, North Georgia, Maj. T. C. Downie.
Journ. Acad. Nat. Sci., vi, 1868, p. 306.

Unio Copei, Lea, n. s 144
Headwaters of Holston River, Smith Co., Va., Prof. E. D. Cope.
Journ. Acad. Nat. Sci., vi, 1868, p. 307.

Unio cylindrellus, Lea, n. s 144
Duck Creek, Tenn.; Swamp Creek, Murray Co., Ga., Major Downie; and North Alabama, Prof. Tuomey.
Journ. Acad. Nat. Sci., vi, 1868, p. 308.

Unio difficilis, Lea, n. s 144
Swamp Creek, Ga., Major Downie; Holston River, Washington Co., Prof. Cope.
Journ. Acad. Nat. Sci., vi, 1868, p. 311.

Unio Topekaensis, n. s 144
Topeka, Kansas, Prof. Daniels; Little Arkansas, Dr. Le Conte.
Journ. Acad. Nat. Sci., vi, 1868, p. 313.

Unio Brazosensis, n. s 144
Dallas Co., Texas, Prof. Forshey; Brazos River, Dr. Lincecum.
Journ. Acad. Nat. Sci., vi, 1868, p. 309.

Unio Lincecumii, n. s 144
Dallas County, Texas, Prof. Forshey; Brazos River, Texas, Dr. G. Lincecum.
Journ. Acad. Nat. Sci., vi, 1868, p. 312.

1868. LEA, ISAAC—Continued.

Unio corvinus, n. s. 144
Flint River, Georgia, J. C. Plant and Dr. Neisler; Neuse River, N. C., Prof. Emmons.
Journ. Acad. Nat. Sci., vi, 1868, p. 310.

Unio corvunculus, n. s. 144
Flint River, Ga., J. C. Plant and Dr. Neisler; Darien, J. H. Couper.
Journ. Acad. Nat. Sci., vi, 1868, p. 314.

Unio planior, n. s 145
Tennessee, Mr. H. Moores; Headwaters Holston River, Washington Co., Virginia, Prof. Copo.
Journ. Acad. Nat. Sci., 1868, p. 316.

Unio vallatus, n. s 145
Alabama River, Dr. Showalter.
Journ. Acad. Nat. Sci., vi, 1868, p. 315.

Unio refulgens, n. s 145
Oktibbeha River, Lauderdale Co., Miss., W. Spillman, M. D.
Journ. Acad. Nat. Sci., vi, 1868, p. 317.

Unio Uharécnsis, Lea, n. s 145
Uharee River, Montgomery Co., N. C., F. A. Genth, M. D.
Journ. Acad. Nat. Sci., vi, 1868, p. 304.

Unio sphæricus, Lea, n. s. 145
Pearl River at Jackson, Miss., C. M. Wheatley.
Journ. Acad. Nat. Sci., vi, 1868, p. 319.

250.

1868. LEA, ISAAC. Notes on some singular forms of Chinese species of Unio. <*Proc. Acad. Nat. Sci., Phila.*, xx, pp. 145–146.

Read before the Academy of Natural Sciences April 21, 1868, and ordered to be published April 28, 1868. This forms part of No. 256.

Criticism on a paper, "Chinese Shells," by Dr. Baird and Mr. H. Adams, in Proceedings of the Zoological Society of London, May 9, 1867.

Unio Douglasiæ, Gray 145
A synonym of *Unio Murchisonianus*, Lea.

Anodonta tenuis, Gray 146
A synonym of *Dipsas discoidea*, Lea.

251.

1868. LEA, ISAAC. Descriptions of four new species of Exotic Unionidæ. <*Proc. Acad. Nat. Sci., Phila.*, xx, p. 150.

Read before the Academy of Natural Sciences May 12, 1868, and ordered to be published May 26, 1868. This forms part of No. 256.

Anodonta Strebelii, Lea, n. s 150
Vera Cruz, Mexico, Dr. G. Strebel, per Smithsonian Inst.
Journ. Acad. Nat. Sci., vi, 1868, p. 322.

Unio Veracruzensis, Lea, n. s 150
Vera Cruz, Mexico, Dr. G. Strebel, per Smithsonian Inst.
Journ. Acad. Nat. Sci., vi, 1868, p. 320.

Unio prunoides, Lea, n. s. 150
Journ. Acad. Nat. Sci., vi, 1868, p. 323.

Unio Chinensis, Lea, n. s. 150
Journ. Acad. Nat. Sci., vi, 1868, p. 325.

252.

1868. LEA, ISAAC. Descriptions of Twenty-six New Species of Melanidæ of the United States. <*Proc. Acad. Nat. Sci., Phila.*, xx, pp. 151–153. May, 1868.

Read before the Academy of Natural Sciences May 12, 1868, and ordered to be published May 26, 1868. This forms part of No. 256.

Goniobasis Wheatleyi, Lea, n. s. 151
Coosa River, Alabama, Dr. Showalter.
Journ. Acad. Nat. Sci., vi, 1868, p. 328.

Goniobasis similis, n. s 151
Connesauga Creek, Georgia, Major T. C. Downie.
Journ. Acad. Nat. Sci., vi, 1868, p. 328.

1868. LEA, ISAAC—Continued.

Goniobasis sulcata, n. s 151
Cahawba River, Alabama, Dr. Showalter.
Journ. Acad. Nat. Sci., vi, 1868, p. 329.

Goniobasis arata, n. s 151
Connesauga Creek, Georgia, Maj. T. C. Downie.
Journ. Acad. Nat. Sci., vi, 1868, p. 329.

Goniobasis Gesnerii, n. s 151
Uchee River, Alabama, Mr. W. Gesner.
Journ. Acad. Nat. Sci., vi, 1868, p. 330.

Goniobasis tenebrosa, n. s 151
Connesauga Creek, Georgia, Maj. F. C. Downie.
Journ. Acad. Nat. Sci., vi, 1868, p. 330, under the name *G. Whitfieldensis*.

Goniobasis bifasciata, n. s 151
Jackson Co., Alabama, Dr. Spillman.
Journ. Acad. Nat. Sci., vi, 1868, p. 331.

Goniobasis clathrata, n. s 151
Jackson Co., Ala., Dr. Spillman.
Journ. Acad. Nat. Sci., vi, 1868, p. 331.

Goniobasis pulchella, n. s 151
North Alabama, Dr. Spillman.
Journ. Acad. Nat. Sci., vi, 1868, p. 332, under name of *G. Gouldiana*.

Goniobasis lutecella, n. s 151
Connesauga Creek, Georgia, Maj. T. C. Downie.
Journ. Acad. Nat. Sci., vi, 1868, p. 332.

Goniobasis Connesaugaensis, n. s 152
Connesauga Creek, Georgia, Maj. T. C. Downie.
Journ. Acad. Nat. Sci., vi, 1868, p. 333.

Goniobasis contigua, n. s 152
Connesauga Creek, Georgia, Maj. T. C. Downie.
Journ. Acad. Nat. Sci., vi, 1868, p. 334.

Goniobasis Murrayensis, n. s 152
Swamp Creek, Murray Co., Ga., Maj. T. C. Downie.
Journ. Acad. Nat. Sci., vi, 1868, p. 334.

Goniobasis granatoides, n. s 152
Connesauga Creek, Georgia, Maj. T. C. Downie.
Journ. Acad. Nat. Sci., vi, 1868, p. 335.

Goniobasis clavula, n. s 152
Jackson Co., Alabama, Dr. Spillman.
Journ. Acad. Nat. Sci., vi, 1868, p. 335.

Goniobasis cochliaris, n. s 152
Shelby Co., Alabama, Maj. T. C. Downie.
Journ. Acad. Nat. Sci., vi, 1868, p. 336.

Goniobasis venusta, n. s 152
Coosa River, Alabama, Dr. Showalter.
Journ. Acad. Nat. Sci., vi, 1868, p. 336.

Goniobasis ornata, n. s 152
Connesauga Creek, Georgia, Maj. T. C. Downie.
Journ. Acad. Nat. Sci., vi, 1868, p. 337.

Trypanostoma nuciforme, n. s 152
Connesauga Creek, Georgia, Maj. T. C. Downie.
Journ. Acad. Nat. Sci., vi, 1868, p. 337.

Trypanostoma castaneum, n. s 152
Coosa River, Alabama, Dr. Showalter.
Journ. Acad. Nat. Sci., vi, 1868, p. 338.

Trypanostoma Wheatleyi, n. s 153
Coosa River, Alabama, Dr. Showalter.
Journ. Acad. Nat. Sci., vi, 1868, p. 338.

Trypanostoma terebrale, n. s 153
Jackson Co., Alabama, Dr. W. Spillman.
Journ. Acad. Nat. Sci., vi, 1868, p. 339.

Lithasia purpurea, n. s 153
Cahawba River at Centreville, Bibb Co., Ala., Dr. Showalter.
Journ. Acad. Nat. Sci., vi, 1868, p. 340.

Lithasia curta, n. s 153
North Alabama, Prof. Tuomey and Dr. Spillman; Tuscumbia, B. Pybus.
Journ. Acad. Nat. Sci., vi, 1868, p. 340.

1868. LEA, ISAAC—Continued.

Schizostoma Wheatleyi, n. s. 153
Coosa River. Dr. Showalter.
Journ. Acad. Nat. Sci., vi, 1868, p. 342.

Anculosa Downiei, n. s. 153
Connesauga Creek, Georgia, Maj. T. C. Downie; Coosa River, Alabama, Dr. Showalter.
Journ. Acad. Nat. Sci., vi, 1868, p. 342.

253.

1868. LEA, ISAAC. Descriptions of seven new species of Unio from North Carolina. <*Proc. Acad. Nat. Sci., Phila.*, xx, pp. 160–161.

Read before the Academy of Natural Sciences, June 2, 1868, and ordered to be published June 30, 1868. This forms part of No. 256.

Unio dorsatus, Lea, n. s. 160
Catawba River, N. C., C. M. Wheatley.
Journ. Acad. Nat. Sci., vi, 1868, p. 300.

Unio datus, Lea, n. s 161
Paw Creek, Beaver Creek, and Long Creek, N. C., C. M. Wheatley.
Journ. Acad. Nat. Sci., 1868, p. 299.

Unio Beaverensis, n. s 161
Beaver and Long Creeks, N. C., C. M. Wheatly; Carter's Creek, Ga., J. Postell.
Journ. Acad. Nat. Sci., vi, 1868, p. 297.

Unio nubilus, n. s. 161
Paw Creek, Mecklenberg Co., N. C., C. M. Wheatley.
Journ. Acad. Nat. Sci., 1868, p. 298.

Unio Pawensis, n. s. 161
Paw Creek, Beaver Creek, and Catawba River, N. C., C. M. Wheatley.
Journ. Acad. Nat. Sci., 1868, p. 302.

Unio humerosus, n. s 161
Charlotte, Mecklenberg Co., N. C., C. M. Wheatley.
Journ. Acad. Nat. Sci., vi, 1868, p. 301.

Unio genuinus, n. s. 161
Bissel's Pond, Charlotte, N. C., C. M. Wheatley.
Journ. Acad. Nat. Sci., vi, 1868, p. 305.

254.

1868. LEA, ISAAC. Description of two new species of Unionidæ from Equador. <*Proc. Acad. Nat. Sci., Phila.*, xx, pp. 161–162.

Read before the Academy of Natural Sciences, June 2, 1868, and ordered to be published June 30, 1868. This forms part of No. 256.

Unio Ortonii, n. s 161
River Napo, Equador, S. Amer., Prof. Orton.
Journ. Acad. Nat. Sci., vi, 1868, p. 321.

Anodonta Napoensis, n. s 162
River Napo, Equador, S. Amer., Prof. Orton.
Journ. Acad. Nat. Sci., vi, 1868, p. 324.

255.

1868. LEA, ISAAC. Descriptions of Unionidæ from the Lower Cretaceous Formation of New Jersey. <*Proc. Acad. Nat. Sci., Phila.*, xx, pp. 162–164.

Read before the Academy of Natural Sciences, June 9, 1868, and ordered to be published June 30, 1868. This forms part of No. 256.

The descriptions of the species are preceded by remarks upon the formation from which the shells were procured.

Unio nasutoides, Lea, n. s 163
Unio radiatoides, Lea, n. s. 163
Unio subrotundoides, Lea, n. s 163
Unio carriosoides, Lea, n. s 163
Unio humerosoides, Lea, n. s 163
Unio Roanokoides, Lea, n. s 164
Unio ligamentinoides, Lea, n. s 164
Unio alatoides, Lea, n. s. 164
Anodonta grandioides, Lea, n. c. 164
Anodonta corpulentoides, Lea, n. s. 164

256.

1868. LEA, ISAAC. Descriptions of Twelve New Species of Unionidæ | from South America. | Notes on some members of the Feldspar Family. | Description of Two New Species of the Genus | Lithasia. | Descriptions of Five New Species of the Genus Unio. | On Two New Minerals from Chester Co., Penn. | Descriptions of Five New Species of Unionidæ and | One Paludina of the United States. | Descriptions of Nine Species of Unionidæ from Lake | Nicaragua, Central America. | Descriptions of Sixteen New Species of the Genus | Unio of the United States. | Notes on some Singular forms of Chinese Species of | Unio. | Descriptions of Four New Species of Exotic Unionidæ. | Descriptions of Twenty-six New Species of Melanidæ | of the United States. | Descriptions of Seven New Species of Unio from | North Carolina. | Descriptions of Two New Species of Unionidæ from | Equador. | Descriptions of Unionidæ from the Lower Creta- | ceous Formation of New Jersey. | — | by | Isaac Lea, LL. D. | — | Philadelphia: | Merrihew & Son, Printers, | No. 243 Arch Street, | 1868. 8°. pp. 32.

This consists of Numbers 238, 239, 240, 241, 246, 247, 248, 249, 250, 251, 252, 253, 254, and 255.

257.

1868. LEA, ISAAC. New Unionidæ, Melanidæ, etc., chiefly of the United States. <*Journ. Acad. Nat. Sci. Phila.*, vi, New Series, pp. 249–302. Plates 29 to 45 inclusive.

Read before the Academy of Natural Sciences, June 2, 1868. Extra copies printed for the author, December, 1868. (See *Journ. Acad. Nat. Sci., Phila.*, vi, n. s., p. 3.) This, with No. 258, forms No. 259.

The place where the Latin descriptions of these species first occurs is given after each species.

Unio Homsensis, Lea, pl. 29, fig. 63 249
Proc. Acad. Nat. Sci., 1864, p. 285.
Unio Orphaensis, Lea, pl. 29, fig. 64 250
Proc. Acad. Nat. Sci., 1864, p. 285.
Unio Kullethensis, Lea, pl. 29, fig. 65 251
Proc. Acad. Nat. Sci., 1864, p. 285.
Unio Mardinensis, Lea, pl. 30, fig. 66 252
Proc. Acad. Nat. Sci., 1864, p. 286.
Monocondylæa Mardinensis, Lea, pl. 30, fig. 67 252
Proc. Acad. Nat. Sci., 1864, p. 286.
Unio Emesaensis, Lea, pl. 30, fig. 68 254
Proc. Acad. Nat. Sci., 1864, p. 286.
Unio marginis, Lea, pl. 31, fig. 69 255
Proc. Acad. Nat. Sci., 1865, p. 89.
Unio proprius, Lea, pl. 31, fig. 70 256
Proc. Acad. Nat. Sci., 1865, p. 89.
Unio protensus, Lea, pl. 31, fig. 71 256
Proc. Acad. Nat. Sci., 1865, p. 88.
Unio amabilis, Lea, pl. 31, fig. 72 257
Proc. Acad. Nat. Sci., 1865, p. 89.
Unio Cromwellii, Lea, pl. 31, fig. 73 258
Proc. Acad. Nat. Sci., 1865, p. 89.
Unio Lyonii, Lea, pl. 32, fig. 74 259
Proc. Acad. Nat. Sci., 1865, p. 89.
Unio doliaris, Lea, pl. 32, fig. 75 260
Proc. Acad. Nat. Sci., 1865, p. 88.
Unio punctatus, Lea, pl. 32, fig. 76 261
Proc. Acad. Nat. Sci., 1865, p. 89.
Unio parcus, Lea, pl. 33, fig. 77 262
Proc. Acad. Nat. Sci., 1866, p. 34.
Unio apprimus, Lea, pl. 33, fig. 78 263
Proc. Acad. Nat. Sci., 1866, p. 34.
Unio locellus, Lea 264
Proc. Acad. Nat. Sci., 1866, p. 34.

1868. LEA, ISAAC—Continued.

Unio peculiaris, Lea, pl. 34, fig. 80 265
Proc. Acad. Nat. Sci., 1866, p. 33.
Unio rugososulcatus, Lea, pl. 34, fig. 81 266
Proc. Acad. Nat. Sci., 1866, p. 33.
Unio firmus, Lea, pl. 34, fig. 82 267
Proc. Acad. Nat. Sci., 1866, p. 33.
Unio ampullaceus, Lea, pl. 35, fig. 83 269
Proc. Acad. Nat. Sci., 1866, p. 34.
Unio acutirostris, Lea, pl. 35, fig. 84 279
Proc. Acad. Nat. Sci., 1866, p. 34.
Unio Paraguayensis, Lea, pl. 35, fig. 85 271
Proc. Acad. Nat. Sci., 1866, p. 34.
Monocondylœa lentiformis, Lea, pl. 36, fig. 86 272
Proc. Acad. Nat. Sci., 1866, p. 34.
Monocondylœa Pazii, Lea, pl. 36, fig. 88 273
Proc. Acad. Nat. Sci., 1866, p. 34.
Anodonta Pazii, Lea, pl. 36, fig. 87 274
Proc. Acad. Nat. Sci., 1866, p. 35.
Mycetopus pygmæus, Lea 275
Unio Jewettii, Lea, pl. 37, fig. 89 276
Proc. Acad. Nat. Sci., 1867, p. 81.
Unio Bisselianus, Lea, pl. 37, fig. 90 277
Proc. Acad. Nat. Sci., 1867, p. 81.
Unio Clinchensis, Lea, pl. 37, fig. 91 278
Proc. Acad. Nat. Sci., 1867, p. 81.
Unio evitatus, Lea, pl. 38, fig. 92 279
Proc. Acad. Nat. Sci., 1866, p. 133.
Unio Siamensis, Lea, pl. 38, fig. 93 279
Proc. Acad. Nat. Sci., 1866, p. 133.
Unio asperulus, Lea, pl. 38, fig. 94 280
Proc. Acad. Nat. Sci., 1866, p. 133.
Unio pilatus, Lea, pl. 38, fig. 95 281
Proc. Acad. Nat. Sci., 1866, p. 133.
Unio rufofuscus, Lea, pl. 39, fig. 96 282
Proc. Acad. Nat. Sci., 1865, p. 76.
Unio Wrightii, Lea, pl. 39, fig. 97 283
Proc. Acad. Nat. Sci., 1865, p. 75.
Unio tortuosus, Lea, pl. 39, fig. 98 286
Proc. Acad. Nat. Sci., 1865, p. 76.
Anodonta Youkanensis, Lea, pl. 40, fig. 99 287
Proc. Acad. Nat. Sci., 1867, p. 81, spelled *Youconensis*.
Anodonta Granadensis, Lea, pl. 41, fig. 100 288
Proc. Acad. Nat. Sci., 1868, p. 96.
Anodonta Jewettii, Lea, pl. 41, fig. 101 289
Proc. Acad. Nat. Sci., 1868, p. 95, spelled Jewettiana.
Anodonta lenticularis, Lea, pl. 41, fig. 102 290
Proc. Acad. Nat. Sci., 1868, p. 95.
Anodonta Bridgesii, Lea, pl. 42, fig. 104 291
Proc. Acad. Nat. Sci., 1868, p. 95.
Anodonta inæquivalva, Lea, pl. 43, fig. 108 292
Proc. Acad. Nat. Sci., 1868, p. 95.
Unio Granadensis, Lea, pl. 42, fig. 103 293
Proc. Acad. Nat. Sci., 1868, p. 95.
Unio encarpus, Lea, pl. 42, fig. 105 294
Proc. Acad. Nat. Sci., 1868, p. 95.
Unio Gabbianus, Lea, pl. 43, fig. 106 295
Proc. Acad. Nat. Sci., 1868, p. 95.
Unio Nicaraguensis, Lea, pl. 43, fig. 107 296
Proc. Acad. Nat. Sci., 1868, p. 95.
Unio Beaverensis, Lea, pl. 44, fig. 109 297
Proc. Acad. Nat. Sci., 1868, p. 161.
Unio nubilus, Lea, pl. 44, fig. 110 298
Proc. Acad. Nat. Sci., 1868, p. 161.
Unio datus, Lea, pl. 44, fig. 111 299
Proc. Acad. Nat. Sci., 1868, p. 161.

1868. LEA, ISAAC—Continued.

Unio dorsatus, Lea, pl. 45, fig. 112 300
Proc. Acad. Nat. Sci., 1868, p. 160.
Unio humerosus, Lea, pl. 45, fig. 113 301
Proc. Acad. Nat. Sci., 1868, p. 161.
Unio Pawensis, Lea, pl. 45, fig. 114 302
Proc. Acad. Nat. Sci., 1868, p. 161.

258.

1868 LEA, ISAAC. New Unionidæ, Melanidæ, etc., chiefly of the United States. <*Journ. Acad. Nat. Sci., Phila.*, vi, 1868, pp. 303–343. Plates 46–54, inclusive.

Continuation of No. 257. Extra copies printed for the author December, 1868. This with No. 257 forms No. 259.

The place in the *Proc. Acad. Nat. Sci.* where the description of each species first occurs is given after the name of the species.

Unio Murrayensis, Lea, pl. 46, fig. 115 303
Proc. Acad. Nat. Sci., 1868, p. 143.
Unio Uharécnsis, Lea, pl. 46, fig. 116 304
Proc. Acad. Nat. Sci., 1868, p. 145.
Unio genuinus, Lea, pl. 46, fig. 117 305
Proc. Acad. Nat. Sci., 1868, p. 161.
Unio fassinans, Lea, pl. 47, fig. 118 305
Proc. Acad. Nat. Sci., 1868, p. 143.
Unio sparus, Lea, pl. 47, fig. 119 306
Proc. Acad. Nat. Sci, 1868, p. 143.
Unio Copei, Lea, pl. 47, fig. 120 307
Proc. Acad. Nat. Sci., 1868, p. 144.
Unio cylindrellus, Lea, pl. 48, fig. 121 308
Proc. Acad. Nat. Sci., 1868, p. 144.
Unio Brazosensis, Lea, pl. 48, fig. 122 309
Proc. Acad. Nat. Sci., 1868, p. 144.
Unio corvinus, Lea, pl. 48, fig. 123 310
Proc. Acad. Nat. Sci., 1868, p. 144.
Unio difficilis, Lea, pl. 49, fig. 124 311
Proc. Acad. Nat. Sci., 1868, p. 144.
Unio Lincecumii, Lea, pl. 49, fig. 125 312
Proc. Acad. Nat. Sci., 1868, p. 144.
Unio Topckaensis, Lea, pl. 49, fig. 126 313
Proc. Acad. Nat. Sci., 1868, p. 144.
Unio corvunculus, Lea, pl. 50, fig. 127 314
Proc. Acad. Nat. Sci., 1868, p. 144.
Unio vallatus, Lea, pl. 50, fig. 128 315
Proc. Acad. Nat. Sci., 1868, p. 145.
Unio planior, Lea, pl. 50, fig. 129 316
Proc. Acad. Nat. Sci., 1868, p. 145.
Unio refulgens, Lea, pl. 51, fig. 130 317
Proc. Acad. Nat. Sci., 1868, p. 145.
Unio Strebelii, Lea, pl. 51, fig. 131 318
Proc. Acad. Nat. Sci., 1866, p. 133.
Unio sphæricus, Lea, pl. 51, fig. 132 319
Proc. Acad. Nat. Sci., 1868, p. 145.
Unio Veracruzensis, Lea, pl. 52, fig. 133 320
Proc. Acad. Nat. Sci., 1868, p. 150.
Unio Ortonii, Lea, pl. 52, fig. 134 321
Proc. Acad. Nat. Sci., 1868, p. 161.
Anodonta Strebelii, Lea, pl. 52, fig. 135 322
Proc. Acad. Nat. Sci., 1868, p. 150.
Unio prunoides, Lea, pl. 53, fig. 136 323
Proc. Acad. Nat. Sci., 1868, p. 150.
Anodonta Napoensis, Lea, pl. 53, fig. 137 324
Proc. Acad. Nat Sci., 1868, p. 162.
Unio Chinensis, Lea, pl. 53, fig. 138 325
Proc. Acad. Nat. Sci., 1868, p. 150.

Here follow descriptions of the soft parts of the following species:

1868. LEA, ISAAC—Continued.

Unio pliciferous, Lea 326
Unio umbrosus, Lea 326
Unio granulatus, Lea 327
Unio consanguineus, Lea 327
Unio Lewisii, Lea 327
Margaritana Holstonia, Lea 327
Goniobasis Wheatleyi, Lea, pl. 54, fig. 1 328
Proc. Acad. Nat. Sci., 1868, p. 151.
Goniobasis similis, Lea, pl. 54, fig. 2 328
Proc. Acad. Nat. Sci., 1868, p. 151.
Goniobasis sulcata, Lea, pl. 54, fig. 3 329
Proc. Acad. Nat. Sci., 1868, p. 151.
Goniobasis arata, Lea, pl. 54, fig. 4 329
Proc. Acad. Nat. Sci., 1868, p. 151.
Goniobasis Gesnerii, Lea, pl. 54, fig. 5 330
Proc. Acad. Nat. Sci., 1868, p. 151.
Goniobasis Whitfieldensis, Lea, pl. 54, fig. 6 330
Proc. Acad. Nat. Sci., 1868, p. 151. (Changed from *tenebrosa*, which name is preoccupied.)
Goniobasis bifasciata, Lea, pl. 54, fig. 7 331
Proc. Acad. Nat. Sci., 1868, p. 151.
Goniobasis clathrata, Lea, pl. 54, fig. 8 331
Proc. Acad. Nat. Sci., 1868, p. 151.
Goniobasis Gouldiana, Lea, pl. 54, fig. 9 332
Proc. Acad. Nat. Sci., 1868, p. 151, under name of *G. pulchella*.
Goniobasis luteocella, Lea, pl. 54, fig. 10 332
Proc. Acad. Nat. Sci., 1868, p. 151.
Goniobasis Connesaugaensis, Lea, pl. 54, fig. 11 333
Proc. Acad. Nat. Sci., 1868, p. 152.
Goniobasis contigua, pl. 54, fig. 12 334
Proc. Acad. Nat. Sci., 1868, p. 152.
Goniobasis Murrayensis, pl. 54, fig. 13 334
Proc. Acad. Nat. Sci., 1868, p. 152.
Goniobasis granatoides, Lea, pl. 54, fig. 14 335
Proc. Acad. Nat. Sci., 1868, p. 152.
Goniobasis clavula, Lea, pl. 54, fig. 15 335
Proc. Acad. Nat. Sci., 1868, p. 152.
Goniobasis cochliaris, Lea, pl. 54, fig. 16 336
Proc. Acad. Nat. Sci., 1868, p. 152.
Goniobasis venusta, Lea, pl. 54, fig. 17 336
Proc. Acad. Nat. Sci., 1868, p. 152.
Goniobasis ornata, Lea, pl. 54, fig. 18 337
Proc. Acad. Nat. Sci., 1868, p. 152.
Trypanostoma nuciforme, Lea, pl. 54, fig. 19 337
Proc. Acad. Nat. Sci., 1868, p. 152.
Trypanostoma castaneum, Lea, pl. 54, fig. 20 338
Proc. Acad. Nat. Sci., 1868, p. 152.
Trypanostoma Wheatleyi, Lea, pl. 54, fig. 21 338
Proc. Acad. Nat. Sci., 1868, p. 153.
Trypanostoma terebrale, Lea, pl. 54, fig. 22 339
Proc. Acad. Nat. Sci., 1868, p. 153.
Lithasia purpurea, Lea, pl. 54, fig. 23 340
Proc. Acad. Nat. Sci., 1868, p. 153.
Lithasia curta, Lea, pl. 54, fig. 24 340
Proc. Acad. Nat. Sci., 1868, p. 153.
Lithasia Wheatleyi, Lea, pl. 54, fig. 25 341
Proc. Acad. Nat. Sci., 1866, p. 133.
Lithasia cylindrica, Lea, pl. 54, fig. 26 341
Proc. Acad. Nat. Sci., 1866, p. 133.
Schizostoma Wheatleyi, Lea, pl. 54, fig. 27 342
Proc. Acad. Nat. Sci., 1868, p. 153.
Anculosa Downiei, Lea, pl. 54, fig. 28 342
Proc. Acad. Nat. Sci., 1868, p. 153.
Paludina Spillmanii, Lea, pl. 54, fig. 29 343
Proc. Acad. Nat. Sci., 1867, p. 81.

259.

1869. LEA, ISAAC. Observations | on the | Genus Unio; | together with | Descriptions of New Species in the Family Unionidæ, | and Descriptions of New Species of the | Melanidæ and Paludinæ. | Read before the Academy of Natural Sciences of Philadelphia, and Published | in their Journal. | by | Isaac Lea, LL. D., | Vice-President of the American Philosophical Society, Etc., Etc. | With Twenty-Six Plates. | Vol. XII. | — | Philadelphia: | Printed for the Author. 4°, pp. 105, with plates, 29 to 54 inclusive.

This is a reprint of numbers 257 and 258.

260.

1869. LEA, ISAAC. Index | to Vol. XII. | and Supplementary Index to Vols. I. to XI. of | Observations | on the | Genus Unio, | together with | Description of New Species of the Family Unionidæ, | and | Description of New Species of the Melanidæ, | Paludinæ, Helicidæ, Etc. | Read before the American Philosophical Society and the Academy of Natural | Sciences of Philadelphia, from 1827 to 1868. | by | Isaac Lea, LL. D., Etc. | — | Vol. II. | — | Philadelphia: | Printed for the Author | by T. K. Collins, 705 Jayne Street. | 1869. 4°, pp. 23.

"The index which I published, in 1867, of the eleven volumes of my Observations on the Genus *Unio*, etc., has proved so useful for reference to the Genera and Species described by me, I am induced to continue it for Vol. XII., and to issue with it an index of the *subject-matter* of the whole twelve volumes. I have also included tables of Errata and Corrigenda, that the whole may be made as complete and useful to the student of this interesting branch of zoology as possible."—Contents, p. 3.

ORDER OF ARRANGEMENT.

Section I. embraces new species of North American *Unionidæ*, original descriptive matter, and miscellaneous references to the same species in Vol. XII., in continuation of Section I., Index to Vols. I. to XI.

Subsections—Unio, Margaritana, Anodonta.

Section II. embraces new species of *Unionidæ* of Mexico and Central America, original descriptive matter, and miscellaneous references to the same species in Vol. XII., in continuation of Section II., Index to Vols. I. to XI.

Subsections—Unio, Anodonta.

Section III. embraces new species of Exotic *Unionidæ*, original descriptive matter, and references to the same species in Vol. XII., in continuation of Section III., Index to Vols. I. to XI.

Subsections—Unio, Anodonta, Monocondylœa, Mycetopus.

Section IV. embraces Miscellaneous *Unionidæ*, etc. (genera and species), to which incidental references have been made in classifying and comparing species under description, in Vol. XII., in continuation of Section IV., Index to Vols. I. to XI.

Subsections—Anodonta, *Arca*, Castalia, Dipsas, Iridina, Monocondylœa, Mycetopus, Prisodon, Spatha, Triquetra.

Section V. embraces Operculated Univalve Aquatic *Mollusca* in Vol. XII., in continuation of Section V. Index to Vols. I. to XI.

Part A. embraces new species only, and miscellaneous references to the same.

Part B. embraces miscellaneous species, subjects of incidental remarks in classifying and comparing species under description.

Subsections—Aculosa, Goniobasis, Lithasia, Paludina, Schizostoma, Trypanostoma.

Section VI. embraces *subject-matter* (not necessarily descriptive or comparative of species) in the series of volumes from I. to XII. alphabetically arranged. Nearly all that refers to Vol. I. to XI. is supplementary, and will not be found in the previous index.

Section VII. embraces Errata and Corrigenda.

Part A. is supplementary to the table of "Errata and Corrigenda" of Vols. I. to XI. in the index to those volumes.

Part B. embraces Errata and Corrigenda of Vol. XII.

Part C. embraces Errata and Corrigenda of Index to Vols. I. to XI.

261.

1869. LEA, ISAAC. Notes on Microscopic Crystals included in some Minerals. <*Proc. Acad. Nat. Sci., Phila.*, xxi, p. 4. February, 1869. Separate with No. 262. 8°. pp. 7.

Read before the Academy of Natural Sciences February 16, 1869, and ordered to be published Feb. 23, 1869. This forms part of No. 272.

262.

1869. LEA, ISAAC. Further Notes on Microscopic Crystals in some of the Gems, &c. <*Proc. Acad. Nat. Sci., Phila.*, xxi, pp. 119-121. May, 1869. Separate with No. 261. 8°. pp. 7.

Read before the Academy of Natural Sciences May 11, 1869, and ordered to be published May 25, 1869. This forms part of No. 272.

263.

1869. LEA, ISAAC. Descriptions of six new species of Fresh Water Shells. <*Proc. Acad. Nat. Sci., Phila.*, xxi, pp. 124-125. June, 1869.

Read before the Academy of Natural Sciences June 15, 1869. This forms part of No. 272. Latin descriptions of the species, with mention of Habitat.

Unio Macnielii, Lea, n. s 124
Rio Gigillillo, Corcuera, Nicaragua, Cent. Amer., M. J. A. McNiel.
Journ. Acad. Nat. Sci., viii, 1874. p. 25.

Goniobasis baculoides, Lea, n. s 125
Coosa River, Alab., Dr. Schowalter.
Journ. Acad. Nat. Sci., viii, 1874, p. 62.

Goniobasis Lawrencii, Lea, n. s 125
Washita River, near Hot Springs, Arkansas, Dr. Lawrence.
Journ. Acad. Nat. Sci., viii, 1874, p. 62, as *G. Lawrencei*.

Schizostoma Lewisii, Lea, n. s 125
Coosa River, Alabama, Dr. Schowalter.
Journ. Acad. Nat. Sci., viii, 1874, p. 61.

Physa Carltonii, Lea, n. s 125
Mount Diablo, California, W. G. W. Harford.
Journ. Acad. Nat. Sci., viii, 1874, p. 63.

Physa Wolfiana, Lea, n. s 125
Hot Springs, Colorado Ter., Prof. J. W. Powell.
Journ. Acad. Nat. Sci., viii, 1874, p. 63.

264.

1869. LEA, ISAAC. Are Unios sensitive to light. <*Amer. Journ. Sci. Arts*, xlvii, 1869, pp. 430-431.

265.

1870. LEA, ISAAC. A | Synopsis | of the | Family Unionidæ. | by | Isaac Lea, LL. D., | Vice President of the American Philosophical Society; | Late President of the Academy of Natural Sciences of Philadelphia; | Member of the Zoological Society of London, Etc., Etc. | Fourth Edition, very greatly enlarged and improved. | Philadelphia: | Henry C. Lea. | 1870. 4to. pp. xxx, 25-184. Dedicated to Isaac Hays, M. D.

Preface to Fourth Edition.

"It is now eighteen years since the last edition of this 'Synopsis' was published. The advancement of the knowledge of Natural History has been accelerated during that period by the labors of many men of science, the younger of whom have embraced the study with great earnestness and energy. The effect of this progress has been felt very sensibly in that interesting group of *Mollusca* which embraces the Family *Unionidæ*. Consequently the Additions of species and synonyms have been largely increased, resulting, in fact, in more than doubling the lists of the last edition. The labor required for this portion of the work has been very great.

The same principles of arrangement of the tabular system which were used in the previous editions have been retained in this. After the experience of thirty-four years since the first

1870. LEA, ISAAC—Continued.

edition was issued, I have had no reason to believe that any better arrangement could be devised in the present state of our knowledge. The tables have therefore been extended to the present time, and have been so much enlarged with new matter as almost to entitle the work to be considered a new one. This has been done with a faithful desire to recognize every fellow-laborer in this group, and to render to each one full justice. Some may have been omitted, for want of access to their works—none intentionally.

The present edition is greatly improved and enlarged by additions to the geographical distribution tables, and by the habitat of each of the species; and the *Index* referring to the tables of species and synonymy has had the exact references fully made to the works where they were originally announced. These two very important additions to the previous editions will facilitate the use of reference to all the works on the subject which this 'Synopsis' embraces.

These tables were originally made for my own use. Subsequently I was induced to print them, and they have now expanded to a large volume. With all the care which has been bestowed on them, I do not present them as a perfect and complete work, and I trust that any omissions and errors may be pointed out to me.

The Bibliographical List of the *Unionidæ* at the end of the volume will surprise the general student by its enormous extent, comprising, as it does, about eleven hundred references, and yet I am perfectly aware that many works will be found to exist which have never come under my notice."

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266.

1871. LEA, ISAAC. Description of three new species of Exotic Unionidæ. <*Proc. Acad. Nat. Sci., Phila.*, xxiii, p. 188. October, 1871.

Read before the Academy of Natural Sciences June 13, 1871, and ordered to be published June 27, 1871. Presented to the meeting of the Academy October 24, 1871. (See *Proc Acad. Nat. Sci., Phila.*, xxiii, p. 6.) This forms part of No. 272.

1871. LEA, ISAAC—Continued.

Full notes on the species to be found in Journal Acad. Nat. Sci., viii, 1874, and Obs., xiii.

Unio Jeffreysianus, Lea, n. s 188
Australia, C. M. Wheatley.
Journ. Acad. Nat. Sci., viii, 1874, p. 23.

Unio Stevensii, Lea, n. s 188
Yuruari River, Tributary to Essequebo River, Guiana, R. P. Stevens.
Journ. Acad. Nat. Sci., viii, 1874, p. 22.

Anodonta exilior, Lea, n. s 188
Mexico, C. M. Wheatley.
Journ. Acad. Nat. Sci., viii, 1874, p. 24.

267.

1871. LEA, ISAAC. Descriptions of Twenty New Species of Unionidæ of the United States. <*Proc. Acad. Nat. Sci., Phila.*, xxiii, pp. 189–193. October, 1871.

Read before the Academy of Natural Sciences June 13, 1871, and ordered to be published June 27, 1871. Presented to the meeting of the Academy October 24, 1871. (See *Proc. Acad. Nat. Sci.*, xxiii, p. 6.) This forms part of No. 272.

Latin descriptions of the species, with mention of habitat. Full notes on species in *Journ. Acad. Nat. Sci., Phila.*, vol. viii, 1874, and Obs., etc.

Unio Lawii, Lea, n. s. 189
Tennessee River, Tuscumbia, Alab., B. Pybas; Tenn. River, Dr. Edgar; Holston River, Miss., A. E. Law and Prof. Cope.
Journ. Acad. Nat. Sci., viii, 1874, p. 8.

Unio appressus, Lea, n. s 189
Tuscumbia, Alab., B. Pybas and J. G. Anthony; Holston River, Miss Law and C. M. Wheatley.
Journ. Acad. Nat. Sci., viii, 1874, p. 12.

Unio validus, Lea, n. s 189
Duck River, Tenn., Dr. Powell; Clinch River, Pres. Estabrook; Holston River, Dr. Edgar and Miss Law.
Journ. Acad. Nat. Sci., viii, p. 6.

Unio litus, Lea, n. s 189
Cahaba River, Shelby Co., Alab., E. R. Schowalter, M. D.
Journ. Acad. Nat. Sci., viii, 1874, p. 17.

Unio simulans, Lea, n. s. 190
Cahaba River, Shelby Co., Alab., E. R. Schowalter, M. D.
Journ. Acad. Nat. Sci., viii, 1874, p. 18.

Unio Cahabensis, Lea, n. s 190
Cahaba River, Shelby Co., Alab., E. R. Schowalter, M. D.
Journ. Acad. Nat. Sci., viii, 1874, p. 17.

Unio acuens, Lea, n. s. 190
Holston River, near Concord, E. Tenn., Miss Law.
Journ. Acad. Nat. Sci., viii, 1874, p. 27.

Unio crudus, Lea, n. s. 190
French Broad River, E. Tenn., Pres. Lindsley; Swamp Creek, Murray Co., Geo., Maj. Downie; Holston River, Miss Law and C. M. Wheatley.
Journ. Acad. Nat. Sci., viii, 1874, p. 14.

Unio Tuscumbiensis, Lea, n. s 190
Tuscumbia, Alab., L. B. Thornton, Esq.; Holston River, E. Tenn., Dr. Edgar.
Journ. Acad. Nat. Sci., viii, 1874, p. 11.

Unio dispansus, Lea, n. s. 191
East Tennessee, Dr. Edgar.
Journ. Acad. Nat. Sci., viii, 1874, p. 19.

Unio Pealei, Lea, n. s 191
Topeka, Kansas, Chas. W. Pealo.
Journ. Acad. Nat. Sci., viii, 1874, p. 26.

Unio globatus, Lea, n. s 191
Holston River, Dr. Edgar; Etowah River, Georgia, Thos. Bland.
Journ. Acad. Nat. Sci., viii, 1874, p. 5.

Unio subglobatus, Lea, n. s 191
Florence, Alab., B. Pybas; Nashville, Tenn., Pres. J. B. Lindsley.
Journ. Acad. Nat. Sci., viii, 1874, p. 7.

1871. LEA, ISAAC—Continued.

Unio recurvatus, Lea, n. s 192
Tenn. River, J. G. Anthony; Holston River, E. Tenn., Miss Law.
Journ. Acad. Nat. Sci., viii, 1874, p. 10.

Unio obuncus, Lea, n. s..... 192
Tuscumbia, Alab.; Holston River, E. Tenn., Miss Law.
Journ. Acad. Nat. Sci., viii, 1874, p. 9.

Unio radiosus, Lea, n. s 192
Holston River, E. Tenn., C. M. Wheatley & Miss Law.
Journ. Acad. Nat. Sci., viii, 1874, p. 13.

Unio circumactus, Lea, n. s 192
Florence, Alab., Rev. G. White; Holston River, Miss Law.
Journ. Acad. Nat. Sci., viii, 1874, p. 15.

Unio radiolus, Lea, n. s 192
Ogeechee River, Liberty Co., Geo., Major John Le Conte.
Journ. Acad. Nat. Sci., viii, 1874, p. 21.

Unio pattinoides, Lea, n. s..... 193
Clinch River, Pres. Estabrook; Holston River, Dr. Edgar and Miss Law.
Journ. Acad. Nat. Sci., viii, 1874, p. 16.

Unio Santeënsis, Lea, n. s 193
Santee Canal, S. C., Dr. Foreman; Oconee River, Georgia, Major J. Le Conte.
Journ. Acad. Nat. Sci., viii, 1874, p. 20.

268.

1872. LEA, ISAAC. Descriptions of Twenty-nine Species of Unionidæ from the United States. <*Proc. Acad. Nat. Sci., Phila.*, xxiv, pp. 155–161. June, 1872.

Read before the Academy of Natural Sciences June 4, 1872, and ordered to be published June 25, 1872. Pages 121–168 presented to the meeting of the Academy September 3, 1872. (See *Proc. Acad. Nat. Sci., Phila.*, xxiv, p. ii.) This forms part of No. 272.

This consists of the Latin descriptions of the species, with mention of the habitat of each. The place where the full notes are to be found will be indicated after each species.

Unio Tellicoensis, Lea, n. s..... 155
Tellico River, Monroe Co., E. Tenn., Miss A. E. Law.
Journ. Acad. Nat. Sci., viii, 1874, p. 31.

Unio Conasaugaensis, Lea, n. s 155
Conasauga Creek, Monroe Co., E. Tenn., Miss A. E. Law.
Journ. Acad. Nat. Sci., viii, 1874, p. 33.

Unio lenticularis, Lea, n. s 155
Tellico River, Monroe Co., E. Tenn., Miss A. E. Law.
Journ. Acad. Nat. Sci., viii, 1874, p. 30.

Unio Andersonensis, Lea, n. s 155
Holston River and Clinch River, Anderson Co., E. Tenn., Miss A. E. Law.
Journ. Acad. Nat. Sci., viii, 1874, p. 36.

Unio flavidus, Lea, n. s..... 156
Clinch River, Anderson Co., E. Tenn., Miss A. E. Law.
Journ. Acad. Nat. Sci., viii, 1874, p. 28.

Unio pauciplicatus, Lea, n. s 156
Austin, Texas, Prof. C. G. Forshey.
Journ. Acad. Nat. Sci., viii, 1874, p. 29.

Unio vesicularis, Lea, n. s 156
Lake Ocheechobee, Florida, Dr. Budd and C. M. Wheatley.
Journ. Acad. Nat. Sci., viii, 1874, p. 37.

Unio conspicuus, Lea, n. s..... 156
Yadkin River, near Salisbury, N. C., C. M. Wheatley.
Journ. Acad. Nat. Sci., viii, 1874, p. 34.

Unio Yadkinensis, Lea, n. s 156
Yadkin River, near Salisbury, N. C., C. M. Wheatley.
Journ. Acad. Nat. Sci., viii, 1874, p. 32.

Unio brevis, Lea, n. s..... 157
Conasauga Creek, Monroe Co., E. Tenn., Miss A. E. Law.
Journ. Acad. Nat. Sci., viii, 1874, p. 35.

Unio amplus, Lea, n. s 157
Irwin's Creek, Mecklenberg Co., N. C., C. M. Wheatley.
Journ. Acad. Nat. Sci., viii, 1874, p. 39.

1872. LEA, ISAAC—Continued.

Unio ligatus, Lea, n. s 157
Irwin's Creek, Mecklenberg Co., and Long Creek, Gaston Co., N. C., C. M. Wheatley.
Journ. Acad. Nat. Sci., viii, 1874, p. 49.

Unio attenuatus, Lea, n. s 157
Savannah River, Georgia, Dr. Barratt; and Beaver Creek, Houston Co., Georgia, Dr. J. Lewis.
Journ. Acad. Nat. Sci., viii, 1874, p. 41.

Unio differtus, Lea, n. s 158
Georgia,? Major J. Le Conte.
Journ. Acad. Nat. Sci., viii, 1874, p. 42.

Unio strumosus, Lea, n. s 158
Yadkin River, N. C.. C. M. Wheatley.
Journ. Acad. Nat. Sci., viii, 1874, p. 57.

Unio subparallelus, Lea, n. s 158
Irwin's Creek and Fox River, N. C., C. M. Wheatley.
Journ. Acad. Nat. Sci., viii, 1874, p. 46.

Unio oblongus, Lea, n. s 158
Irwin's Creek, N. C., C. M. Wheatley.
Journ. Acad. Nat. Sci., viii, 1874, p. 52.

Unio Irwinensis, Lea, n. s 159
Irwin's Creek, N. C., C. M. Wheatley.
Journ. Acad. Nat. Sci., viii, 1874, p. 44.

Unio curvatus, Lea, n. s 159
Pfeiffer's Pond, Mecklenberg Co., N. C., C. M. Wheatley.
Journ. Acad. Nat. Sci., viii, 1874, p. 38.

Unio insolidus, Lea, n. s 159
Abbeville Dist., N. C., Dr. Barratt; and Irwin's Creek, N. C., C. M. Wheatley.
Journ. Acad. Nat. Sci., viii, 1874, p. 40.

Unio cuspidatus, Lea, n. s 159
Buckhead Creek, Burke Co., Georgia, Bishop Elliott.
Journ. Acad. Nat. Sci., viii, 1874, p. 43.

Unio exacutus, Lea, n. s 159
Savannah River at Governor Hamilton's, Georgia, Dr. Barratt.
Journ. Acad. Nat. Sci., viii, 1874, p. 45.

Unio subsquamosus, Lea, n. s 160
Yadkin River, N. C., C. M. Wheatley.
Journ. Acad. Nat. Sci., viii, 1874, p. 47.

Unio rostellum, Lea, n. s 160
Macon, Georgia, I. C. Plant.
Journ. Acad. Nat. Sci., viii, 1874, p. 44.

Unio infuscus, Lea, n. s 160
Fox River and Irwin's Creek, N. C., C. M. Wheatley.
Journ. Acad. Nat. Sci., viii, 1874, p. 51.

Unio ratus, Lea, n. s 160
Neuse River, N. C., Prof. E. Emmons.
Journ. Acad. Nat. Sci., viii, 1874, p. 52.

Unio dissimilis, Lea, n. s 161
Long Creek, Gaston Co., and Pfeiffer's Pond, Mecklenberg Co., N. C., C. M. Wheatley.
Journ. Acad. Nat. Sci., viii, 1874, p. 53.

Unio bellulus, Lea, n. s 161
Holston River, Dr. Edgar; Tenn. River, Rev. G. White; Mussel Shoals, Tenn. River, Alabama, C. M. Wheatley.
Journ. Acad. Nat. Sci., viii, 1874, p. 50.

Unio basalis, Lea, n. s 161
Carter's Creek, near Columbus, Georgia, G. Hallenbeck.
Journ. Acad. Nat. Sci., viii, 1874, p. 48.

269.

1872. LEA, ISAAC. Rectification | of | T. A. Conrad's | "Synopsis of the Family of Naïades of | North America," | published in the | "Proceedings of the Academy of Natural Sciences | of Philadelphia, | February, 1853." | New edition. |

1872. LEA, ISAAC—Continued.

By | Isaac Lea, LL. D. | Philadelphia: | Collins, Printer, 705 Jayne Street. | 1872. | 8°. pp. 45. Pamphlet.

(See numbers 101 and 237.)

NOTICE.

The previous edition of my "Rectification" of Mr. Conrad's "Synopsis of the Family of Naïades of North America" being exhausted, I am induced to reprint it complete as originally read before the Academy of Natural Sciences, February 7, 1854. The parts now inserted in brackets [—] are those which, on consultation with the committee appointed on the paper, I consented should be left out. These were chiefly the arguments regarding *priority* of publication, and the opinions of the principal naturalists regarding the claims of M. Rafinesque. All the matter in brackets is precisely as originally read by me to the Academy.

In addition there are two foot-notes on pages 7 and 10, written and dated at the present time. They are intended to be explanatory.

In the "Bibliography of North American Conchology," by W. G. Binney, "Smithsonian Miscellaneous Collections," Part I, 1863, the "Synopsis of the Family of North America," by E. A. Conrad, is tabulated in eight pages, double column. It would naturally be supposed, in pretending to give a complete bibliography, that my "Rectification" of this very erroneous "Synopsis" would have been inserted by Mr. Binney as a part of the Bibliography of North American Conchology, and have followed in its proper place, so that the student of American Conchology could at least have known the facts. Such, however, was not the case. He simply gave the title, and says, "as regards errors of dates the following are specified"—and then cites *four* specific names, with dates, instead of nearly *one hundred*. Mr. Binney, therefore, evidently used the "Bibliography" for personal purposes, depriving the student of the power of ascertaining the facts, unless he referred to my original publication in the Proceedings of the Academy of Natural Sciences. It was very natural that I should apply to Prof. Henry, the Secretary of the Smithsonian Institution, for a correction of this omission, which he very kindly promised should be made in Part II, to come out the next year, 1864. In an Appendix of this Part, Mr. Binney published a mere useless catalogue of names, *without a date and without a single correction* of Mr. Conrad's erroneous dates of my species, for which the "Rectification" was expressly written In the caption of this Appendix, Mr. Binney says that "Mr. Lea having requested that the whole of his 'Rectification' should be published, I add a list of the species to which he refers in that paper." This is not the fact; I only requested Prof. Henry to have inserted *the tables* of the corrected dates of species, so that all naturalists interested in the subject might be able to judge for themselves. The tables, as inserted at pages 273 and 274 by Mr. Binney, are utterly useless for any purpose, as they do not correct a single error of Mr. Conrad's dates of my species, the very object of the publication of my "Rectification."

Subsequently, on my complaining to Prof. Henry of this second act of injustice by Mr. Binney, he requested another copy of the tables of my "Rectification" for the purpose of inserting it in another Appendix, and he very kindly has published it in Vol. IX, p. 289, of "Smithsonian Miscellaneous Collections," 1869, under his own name. Unfortunately, it never can be of the same use to science as if it had been it its proper place in Part I, and in the interim six years had elapsed.*

The unreliability and danger of taking a date of species, on assumptive grounds, and putting aside that of a paper regularly read before an accredited scientific society—placing a fictitious date in its place—are so fully exemplified in the case of Mr. Conrad's paper on Tertiary Fossils, American Journal of Conchology, Vol. I, 1865, that I am induced to print my correspondence with the editor in regard to it. In this paper, some of my species read before the Academy of Natural Sciences, August 27, 1833, and issued printed the last of November following, with illustrations, and the imprint of 1833, Mr. Conrad has placed the date of April, 1834, and made them synonyms to those of his paper issued in 1833. This correspondence will fully exemplify the absurdity of taking dates from individual authority, and rejecting those of accredited scientific bodies.

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*In the remarks of the editor of the "American Journal of Conchology," Vol. I, p. 270, he criticises the course taken by Mr. Binney, and says "a book of this nature should afford every possible information to those who have occasion to consult it," and that I had proved the priority of certain of "his [my] species by evidence which had never been questioned. Yet Mr. Binney has not deemed it advisable even to mention the dates stated by Mr. Lea except in regard to four species only, and thus those who in future times depend, as they certainly will, on the Bibliography, for the synonymy of these species, will be misled into the perpetuation of a wrong."

270.

1874. LEA, ISAAC. Description of Seven New Species of Unionidæ of the United States. <*Proc. Acad. Nat. Sci., Phila.*, xxv, pp. 422–423.

Read before the Academy of Natural Sciences Nov. 25, 1873. Ordered to be published Dec. 30, 1873. Pages 409–424 of the Proceedings, presented to the Society at the meeting of February 17, 1874. (See *Proc. Acad. Nat. Sci., Phila.*, xxv, 1873, pp. ii.) This forms part of No. 272.

Unio infulgens, Lea, n. s. 422
Stewart's Pond, Union Co., N. C., C. M. Wheatley.
Journ. Acad. Nat. Sci., viii, 1874, p. 60.

Unio subolivaceus, Lea, n. s 422
Catawba River, Fox and Yadkin Rivers, N. C., C. M. Wheatley.
Journ. Acad. Nat. Sci., 1874, p. 57.

Unio cirratus, Lea, n. s. 422
Abbeville Dist., S. C., Dr. Barratt.
Journ. Acad. Nat. Sci., viii, 1874, p. 55.

Unio subcylindraceus, Lea, n. s 422
Rocky Creek, near Macon, Georgia, J. C. Plant; and Carter's Creek, Georgia, J. Postell.
Journ. Acad. Nat. Sci., viii, 1878, p. 58.

Unio hastatus, Lea, n. s. 423
New Market, Abbeville Dist., S. C., Dr. L. R. Gibbs and Dr. Barratt; and Rocky Creek, near Macon, Georgia, J. C. Plant.
Journ. Acad. Nat. Sci., viii, 1874, p. 56.

Unio corneus, Lea, n. s 423
Columbus, Georgia, G. Hallenbeck; Abbeville Dist., S. C., Dr. Barratt; Marietta, Georgia, J. C. Anthony.
Journ. Acad. Nat. Sci., viii, 1874, p. 59.

Unio strumosus, Lea 423
Yadkin River, N. C., C. M. Wheatley.
Journ. Acad. Nat. Sci., 1874, p. 57, first described in *Proc. Acad. Nat. Sci.*, 1872, p. 158.

271.

1874. LEA, ISAAC. Description of Three New Species of Unionesof the United States. <*Proc. Acad. Nat. Sci., Phila.*, xxv, p. 424.

Read before the Academy of Natural Sciences December 23, 1873, and ordered to be printed Dec. 30, 1873. Pages 409–424 presented to the meeting of the Society Feb. 17, 1874. (See *Proc. Acad. Nat. Sci., Phila.*, xxv, 1873, p. ii.) This forms part of No. 272.

Unio Dooleyensis, Lea, n. s. 424
Dooley Co., Georgia, Rev. G. White; Abbeville, S. C., Dr. Barratt.
Journ. Acad. Nat. Sci., viii, 1874, p. 64.

Unio invenustus, Lea, n. s 424
Columbus, Georgia, G. Hallenbeck; Russel Co., Georgia, Dr. Neisler; Irwin's Creek, North Carolina, C. M. Wheatley.
Journ. Acad. Nat. Sci., viii, 1874, p. 66.

Unio Gesnerii, Lea, n. s 424
Uchee River, near Columbus, Georgia, Dr. J. Lewis.
Journ. Acad. Nat. Sci., viii, 1874, p. 65.

272.

1874 LEA, ISAAC. Notes on Microscopic Crystals included in | some Minerals. | Further Notes on Microscopic Crystals in | some of the Gems, Etc. (With a Plate.) | Descriptions of Six New Species of Fresh | Water Shells. | Descriptions of Three New Species of Exotic | Unionidæ. | Descriptions of Twenty New Species of Uni- | ones of the United States. | Descriptions of Twenty-Nine Species of Uni- | onidæ of the United States. | Descriptions of Seven New Species of Union- | idæ of the United States. | Descriptions of Three New Species of Uniones | of the United States. | by | Isaac Lea, LL. D., Etc. | Philadelphia: | Collins, Printer, 705 Jayne Street, | 1874. 8°. pp. 24. Pamphlet.

This consists of Nos. 261, 262, 263, 266, 267, 268, 270, & 271.

273.

1874. LEA, ISAAC. Description of fifty-two species of Unionidæ. <*Journ. Acad. Nat. Sci., Phila.*, viii. New series. Pp. 5–54. With plates I to XVIII.

Read before the Academy Natural Sciences, Phila., September 15, 1873. Ordered to be printed in the Journ. of the Acad. Sept. 15, 1873. Extra copies printed for the author March 30, 1874. (See *Table of Contents of Journ. Acad. Nat. Sci., Phila.*, viii, n. s. Part I.) This with No. 274 forms No. 275. Reprinted with plates in Observations on the Genus Unio, vol. xiii.

The descriptions of these species were published in various articles in the Proc. Acad. Nat. Sci., Phila., previous to the reading of this paper. The place where each species was first described is indicated after each species.

Unio globatus, Lea, pl. 1, fig. 1 5
Proc. Acad. Nat. Sci., Phila., 1871, p. 191.

Unio validus, Lea, pl. 1, fig. 2 6
Proc. Acad. Nat. Sci., Phila., 1871, p. 189.

Unio subglobatus, Lea, pl. 1, fig. 3 7
Proc. Acad. Nat. Sci., Phila., 1871, p. 191.

Unio Lawii, Lea, pl. 2, fig. 4 8
Proc. Acad. Nat. Sci., Phila., 1871, p. 189.

Unio obuncus, Lea, pl. 2, fig. 5 9
Proc. Acad. Nat. Sci., Phila., 1871, p. 192.

Unio recurvatus, Lea, pl. 2, fig. 6 10
Proc. Acad. Nat. Sci., Phila., 1871, p. 192.

Unio Tuscumbiensis, Lea, pl. 3, fig. 7 11
Proc. Acad. Nat. Sci., Phila., 1871, p. 190.

Unio appressus, Lea, pl. 3, fig. 8 12
Proc. Acad. Nat. Sci., Phila., 1871, p. 189.

Unio radiosus, Lea, pl. 3, fig. 9 13
Proc. Acad. Nat. Sci., Phila., 1871, p. 192.

Unio crudus, Lea, pl. 4, fig. 10 14
Proc. Acad. Nat. Sci., Phila., 1871, p. 190.

Unio circumactus, Lea, pl. 4, fig. 11 15
Proc. Acad. Nat. Sci., Phila., 1871, p. 192.

Unio pattinoides, Lea, pl. 4, fig. 12 16
Proc. Acad. Nat. Sci., Phila., 1871, p. 193.

Unio litus, Lea, pl. 5, fig. 13 17
Proc. Acad. Nat. Sci., Phila., 1871, p. 189.

Unio Cahabensis, Lea, pl. 5, fig. 14 17
Proc. Acad. Nat. Sci., Phila., 1871, p. 190.

Unio simulans, Lea, pl. 5, fig. 15 18
Proc. Acad. Nat. Sci., Phila., 1871, p. 190.

Unio dispansus, Lea, pl. 6, fig. 16 19
Proc. Acad. Nat. Sci., Phila., 1871, p. 191.

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1874. LEA, ISAAC. Supplement to Isaac Lea's Paper on Unionidæ. <*Journ. Acad. Nat. Sci., Phila.*, viii, pp. 55–69, with plates 19 to 22, inclusive.

Read before the Academy of Natural Sciences, Phila., February 3, 1874. Extra copies printed for the author March 30, 1874. (See *Table of Contents of Journ. Acad. Nat. Sci., Phila.*, viii, n. s. Part I.) This with No. 273 forms No. 275.

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This consists of Nos. 273 and 274.

276.

1874. LEA, ISAAC. Index | to Vol. I to XIII. | Observations | on the | Genus Unio, | together with | Descriptions of New Species of the Family Unionidæ, | and | Descriptions of New Species of the Melanidæ, | Paludinæ, Helicidæ, Etc. |

1874. LEA, ISAAC—Continued.

Read before the American Philosophical Society and the Academy of Natural Sciences of Philadelphia, from 1827 to 1874. | by | Isaac Lea, LL. D. | — | Vol. III. | — | Philadelphia: | Printed for the Author. | Collins, Printer, 705 Jayne Street. | 1874. 4°. pp. 29.

"The two previous indices, published in 1867 and 1869, were chiefly intended for references to general species in the previous twelve volumes. The object of this Index is to embrace the subject-matter, *anatomical and structural* details, habits, etc., of the whole thirteen volumes, and in such an extended and analytical manner as to make every part of these volumes accessible to the student of these important and very interesting Families of the Mullusca." Notice p. 3.

ORDER OF ARRANGEMENT.

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277.

1876. LEA, ISAAC. Further Notes on "Inclusions" in Gems, etc. <*Proc. Acad. Nat. Sci., Phila.*, xxviii, pp. 98–107, with a lithographic plate.

Read before the Academy of Natural Sciences, May 23, 1876. Pages 98–104 of the Proceedings were presented to the Academy July 11, 1876, pp. 105–107 August 8, 1876. For separate, see No. 278.

278.

1876. LEA, ISAAC. Further Notes | on | "Inclusions" in Gems, Etc. | by | Isaac Lea, LL. D. | Philadelphia: | Collins, Printer, 705 Jayne Street. | 1876.

This is the Separate of No. 277.

Copy in Library of Congress has date of June 20, 1876.

279.

1876. LEA, ISAAC. Catalogue | of | the Published Works | of | Isaac Lea, LL. D. | From 1817 to 1876. | — | Philadelphia: | Collins, Printer, 705 Jayne Street. | 1876. 8°. pp. 22.

LIST OF SPECIES DISCUSSED AND DESCRIBED.

NOTE.

In this list the genera and species are arranged alphabetically according to their generic and specific designations. The names of genera are printed in SMALL CAPS The abbreviated titles of publications are as follows:

J. A. N. S., Journal, (& P. A. N. S., Proceedings) Academy Natural Sciences, Philadelphia. T. A. P. S., Transactions, (& P. A. P. S., Proceedings) American Philosophical Society, Philadelphia. Obs. Gen. Unio, Observations on the Genus Unio. Con. Geol., Contributions to Geology.

The numbers in parentheses ( ) refer to the titles in the first part of this work.

ACOSTÆA.
J. A. N. S., (147) vol. iv, 1858, p. 45; (71) vol. ii, pp. 125–131; Obs. Gen. Unio, (150) vol. vi, p. 45.

A. Guaduasana.
J. A. N. S., (71) vol. ii, 1851, pp. 125–131.

Achatina columba.
T. A. P. S., (81) vol. x, 1852, p. 296; Obs. Gen. Unio, (83) vol. v, p. 52.

A. flammata.
T. A. P. S., (51) vol. ix, 1841, p. 2; Obs. Gen. Unio, (56) vol. iv, p. 2.

A. folliculus.
T. A. P. S., (51) vol. ix, 1841, p. 3; Obs. Gen. Unio, (56) vol. iv, p. 3.

A. striata.
T. A. P. S., (20) vol. v, p. 85; (51) vol. ix, 1841, p. 3; P. A. P. S., (39) vol. ii, 1841, p. 31; Obs. Gen. Unio, (56) vol. iv, p. 3.

A. turbinata.
P. A. P. S., (39) vol. ii, 1841, p. 31; T. A. P. S., (51) vol. ix, 1841, p. 2; Obs. Gen. Unio, (56) vol. iv, p. 2.

A. Vanuxemensis.
T. A. P. S., (20) vol. v, 1833, p. 84, pl. xix, f. 78; Obs. Gen. Unio, (21) vol. i, p. 196, pl. xix, f. 78.

ACTEON.
(18) Con. Geol., 1833, p. 115.

A. elevatus.
(18) Con. Geol., 1833, p. 113, pl. iv, f. 98.

A. lineatus.
(18) Con. Geol., 1833, pp. 19, 111, 112, pl. iv, f. 97.

A. melanellus.
(18) Con. Geol., 1833, p. 113, pl. iv, f. 99.

A. melanoides.
(18) Con. Geol., 1833, p. 115.

A. Noæ.
(18) Con. Geol., 1833, p. 111.

A. ovoides.
(18) Con. Geol., 1833, p. 112.

A. punctatus.
(18) Con. Geol., 1833, pp. 110, 203.

A. pygmæus.
(18) Con. Geol., 1833, p. 114, pl. iv, f. 101.

Acteon striatus.
(18) Con. Geol., 1833, pp. 112, 113, pl. iv, f. 100.

A. Wetherilli.
(18) Con. Geol., 1833, p. 213, pl. vi, f. 224.

ALASMODON.
T. A. P. S., (27) vol. vi, 1838, p. 115.

ALASMODONTA.
T. A. P. S., (12) vol. iii, 1829, p. 429, 443; (27) vol. vi, 1838, p. 117; J. A. N. S., (221) vol. v, 1863, p. 447; Obs. Gen. Unio, (21) vol. i, pp. 43, 57; (29) vol. ii, p. 117, (222) vol. x, p. 83.

A. abducta.
T. A. P. S., (27) vol. vi, 1838, p. 135; Obs. Gen. Unio, (29) vol. ii, p. 135.

A. ambigua.
T. A. P. S., (27) vol. vi, 1838, p. 128; Obs. Gen. Unio, (29) vol. ii, p. 128.

A. arcuata.
T. A. P. S., (12) vol. iii, 1829, p. 421; (20) vol. v, 1833, pp. 63, 87, 88; (27) vol. vi, 1838, pp. 134, 136; Obs. Gen. Unio, (21) vol. i, pp. 35, 175, 199, 200.

A. atropurpureum.
T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

A. badium.
T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

A. Bonellii.
T. A. P. S., (27) vol. vi, 1838, p. 135; Obs. Gen. Unio, (170) vol. vii, p. 54; (29) vol. ii, p. 135; J. A. N. S., (168) vol. iv, 1859, p. 236.

A. complanaria.
J. A. N. S., (221) vol. v, 1863, p. 446; Obs. Gen. Unio, (222) vol. x, p. 82.

A. complanata.
T. A. P. S., (15) vol. iv, 1831, p. 106; (20) vol. v, 1832, p. 28; (27) vol. vi, 1836, p. 78; 1838, pp. 118, 134; Obs. Gen. Unio, (21) vol. i, pp. 106, 116, 140; (29) vol. ii, pp. 118, 134; (222) vol. x, p. 84; J. A. N. S., (221) vol. v, 1863, p. 448.

A. confragosa.
T. A. P. S., (27) vol. vi, 1838, p. 135; Obs. Gen. Unio, (29) vol. ii, p. 135; (222) vol. x, p. 84; J. A. N. S., (221) vol. v, 1863, p. 448.

Alasmodonta costata.
T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

A. edentula.
T. A. P. S., (27) vol. vi, 1838, pp. 135, 138; (43) vol. viii, 1840, p. 222; (55) vol. x, 1845, p. 82; (79) vol. x, 1852, p. 293; Obs. Gen. Unio, (29) vol. ii, pp. 135, 138; (44) vol. iii, p. 60; (56) vol. iv, p. 82; (83) vol. v, p. 49; (205) vol. viii, p. 111.

A. falcata.
J. A. N. S., (159) vol. iv, 1859, pp. 224, 225; Obs. Gen. Unio, (170) vol. vii, pp. 42, 43.

A. hians.
T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

A. incurva.
T. A. P. S., (27) vol. vi, 1838, pp. 136, 149; Obs. Gen. Unio, (29) vol. ii, pp. 136, 149.

A. margaritifera.
T. A. P. S., (12) vol. iii, 1829, p. 421; (27) vol. vi, 1838, p. 136; Obs. Gen. Unio, (21) vol. i, p. 35; (29) vol. ii, p. 136.

A. marginata.
T. A. P. S., (12) vol. iii, 1829, p. 429; (15) vol. iv, 1830, p. 67; (20) vol. v, 1832, pp. 25, 91, 92, 107; (27) vol. vi, 1838, pp. 126, 135; Obs. Gen. Unio, (21) vol. i, pp. 43, 77, 137, 203, 204, 219; (29) vol. ii, pp. 126, 135; (215) vol. ix, p. 20; (222) vol. x, p. 82; J. A. N. S., (213) vol. v. 1862, p. 198; (221) vol. v, 1863, p. 446.

A. papyraccum.
T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

A. ponderosum.
T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

A. radiata.
T. A. P. S., (27) vol. vi, 1838, p. 135; Obs. Gen. Unio, (29) vol. ii, p. 135.

A. rugosa.
T. A. P. S., (15) vol. iv, 1830, p. 67; (27) vol. vi, 1838, pp. 135, 144; (43) vol. viii, 1840, p. 207; Obs. Gen. Unio, (21) vol. i, p. 77; (44) vol. iii, p. 45; (29) vol. ii, pp. 135, 144; (222) vol. x, p. 82.

A. scriptum.
T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

A. sculptilis.
T. A. P. S., (27) vol. vi, 1838, p. 135; Obs. Gen. Unio, (29) vol. ii, p. 135.

A. sulcatum.
T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

A. Tripolitana.
T. A. P. S., (27) vol. vi, 1838, pp. 136, 149; Obs. Gen. Unio, (29) vol. ii, pp. 136, 149.

A truncata.
T. A. P. S., (27) vol. vi, 1838, p. 135; Obs. Gen. Unio, (29) vol. ii, p. 135.

A. undulata.
T. A. P. S., (12) vol. iii, 1829, p. 424; (15) vol. iv, 1831, p. 107; (20) vol. v, 1833, p. 91; (27) vol. vi, 1838, pp. 72, 118, 135; Obs. Gen. Unio, (21) vol. i, pp. 38, 117, 203; (29) vol. ii, pp. 72, 118, 135.

Alasmodonta viridis.
T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

A. Yulaensis.
J. A. N. S., (243) vol. vi, 1866, p. 155; Obs. Gen. Unio, (244) vol. xi, p. 111.

AMMONITES.
T. A. P. S., (36) vol. vii, 1840, p. 252; P. A. N. S. (145) vol. x, 1858, pp. 218, 221.

A. Americanus.
P. A. P. S., (33) vol. i, 1840, p. 226; T. A. P. S., (36) vol. vii, 1840, p. 255, pl. viii, f. 6.

A. Gibbonianus.
P. A. P. S., (33) vol. i, 1840, p. 226; T. A. P. S., (36) vol. vii, 1840, p. 254, pl. viii, f. 3.

A. occidentalis.
P. A. P. S., (33) vol. i, 1840, p. 226; T. A. P. S., (36) vol. vi, 1840, p. 254, pl. viii, f. 4.

A. Tocaimaensis.
P. A. P. S., (33) vol. i, 1840, p. 226; T. A. P. S., (36) vol. vii, 1840, p. 253, pl. viii, f. 2.

A. Vanuxemensis.
P. A. P. S., (33) vol. i, 1840, p. 226; T. A. P. S., (36) vol. vii, 1840, p. 254, pl. viii, f. 5.

AMNICOLA.
T. A. P. S., (51) vol. ix, 1841, p. 16; J. A. N. S., (214) vol. v, 1862, pp. 218, 269; Obs. Gen. Unio, (56) vol. iv, p. 16; (215) vol. ix, pp. 40, 91.

A. Currieriana.
J. A. N. S., (243) vol. vi, 1866, p. 186, pl. xxiv, f. 118; Obs. Gen. Unio, (244) vol. xi, p. 142, pl. xxiv, f. 118.

A. isogona.
T. A. P. S., (51) vol. ix, 1841, p. 16; Obs. Gen. Unio, (56) vol. iv, p. 16.

A. limosa.
T. A. P. S., (51) vol. ix, 1841, p. 13; Obs. Gen. Unio, (56) vol. iv, p. 13.

A. lustrica.
T. A. P. S., (51) vol. ix, 1841, p. 13; Obs. Gen. Unio, (56) vol. iv, p. 13.

A. orbiculata.
P. A. P. S., (39) vol. ii, 1841, p. 34; T. A. P. S., (51) vol. ix, 1841, pp 16, 17; Obs. Gen. Unio, (56) vol. iv, pp. 16, 17.

A. porata.
T. A. P. S., (51) vol. ix, 1841, p. 13; Obs. Gen. Unio, (56) vol. iv, p. 13.

A. parva.
P. A. P. S., (39) vol. ii, 1841, p. 34; T. A. P. S., (51) vol. ix, 1841, p. 16; Obs. Gen. Unio, (56) vol. iv, p. 16.

AMPHIDESMA.
(18) Con. Geol., 1833, p. 43.

Ampullaria aurostoma.
P. A. N. S., (113) vol. viii, 1856, p. 110; J. A. N. S., (243) vol. vi, 1866, p. 114, pl. xxii, f. 4; Obs. Gen. Unio, (244) vol. xi, p. 71, pl. xxii, f. 4.

A. carinata.
T. A. P. S., (27) vol. vi, 1836, p. 90; Obs. Gen. Unio, (29) vol. ii, p. 90.

A. Celebensis.
J. A. N. S., (243) vol. vi, 1866, p. 114; Obs. Gen. Unio, (244) vol. xi, p. 70.

Amphidesma crassa.
J. A. N. S., (243) vol. vi, 1866, p. 115; Obs. Gen. Unio, (244) vol. xi, p. 71.

A. depressa.
T. A. P. S., (20) vol. v, 1834, p. 116; Obs. Gen. Unio, (21) vol. i, p. 228.

A. fasciata.
T. A. P. S., (20) vol. v, 1834, p. 116; Obs. Gen. Unio, (21) vol. i, p. 228.

A. flagellata.
J. A. N. S., (243) vol. vi, 1866, p. 113; Obs. Gen. Unio, (244) vol. xi, p. 70.

A. gracilis.
P. A. N. S., (113) vol. viii, 1856, p. 110; J. A. N. S., (243) vol. vi, 1866, p. 113, pl. xxii, f. 1; Obs. Gen. Unio, (244) vol. xi, p. 70, pl. xxii, f. 1.

AMPULLARIA.

A. Hopetonensis.
T. A. P. S., (20) vol. v, 1834, p. 115, pl. xix, f. 84; Obs. Gen. Unio, (21) vol. i, p. 227, pl. xix, f. 84.

A. neritoides.
J. A. N. S., (243) vol. vi, 1866, p. 156; Obs. Gen. Unio, (244) vol. xi, pp. 112, 113.

A. ovata.
J. A. N. S., (243) vol. vi, 1866, p. 114; Obs. Gen. Unio, vol. xi, p. 71.

A. paludosa.
T. A. P. S., (20) vol. v, 1834, p. 116; Obs. Gen. Unio, (21) vol. i, p. 228.

A. Pealiana.
T. A. P. S., (27) vol. vi, 1834, p. 16, pl. xxiii, f. 77; J. A. N. S., (243) vol. vi, 1866, p. 115; Obs. Gen. Unio, (29) vol. ii, p. 16, pl. xxiii, f. 77; (244) vol. xi, p. 71.

A. tubæformis.
P. A. N. S., (113) vol. viii, 1856, p. 110; J. A. N. S., (243) vol. vi, 1866, p. 114, pl. xxii, f. 3; Obs. Gen. Unio, (244) vol. xi, p. 70, pl. xxii, f. 3.

A. turbinis.
P. A. N. S., (113) vol. viii, 1856, p. 110; J. A. N. S., (243) vol. vi, 1866, p. 113, pl. xxii, f. 2; Obs. Gen. Unio, (244) vol. xi, p. 70, pl. xxii, f. 2.

Anatina Claibornensis.
(18) Con. Geol., 1833, p. 40, pl. i, f. 8.

ANCULOSA.
P. A. P. S., (48) vol. ii, 1842, p. 241; T. A. P. S., (43) vol. viii, 1841, p. 143; (51) vol. ix, 1842, pp. 14, 24; J. A. N. S., (214) vol. v, 1862, pp. 218, 261, 346; (243) vol. vi, 1866, pp. 150, 157; P. A. N. S., (201) vol. xiii, 1861, p. 393; Obs. Gen. Unio, (44) vol. iii, p. 1; (56) vol. iv, pp. 14, 24; (215) vol. ix, pp. 40, 83, 168; (244) vol. xi, pp. 106, 113.

A. bella.
P. A. P. S., (40) vol. ii, 1841, p. 83.

A. carinata.
P. A. P. S., (39) vol. ii, 1841, p. 34; T. A. P. S., (51) vol. ix. 1841, p. 15; Obs. Gen. Unio, (56) vol. iv, p. 15.

A contorta.
P. A. N. S., (182) vol. xii, 1860, p. 187; J. A. N. S., (214) vol. v, 1862, p. 258, pl. xxxv, f. 66; Obs. Gen. Unio, (215) vol. ix, p. 80, pl. xxxv, f. 66.

Anculosa Coosaensis.
P. A. N. S., (193) vol. xiii, 1861, p. 54; J. A. N. S., (214) vol. v, 1862, p. 257, pl. xxxv, f. 65; Obs. Gen. Unio, (215) vol. ix, p. 79, pl xxxv, f. 65.

A. dentata.
P. A. P. S., (39) vol. ii, 1841, p. 34.

A. dissimilis.
T. A. P. S., (51) vol. ix, 1841, pp. 13, 15; Obs. Gen. Unio, (56) vol. iv, pp. 13, 15.

A. Downiei.
J. A. N. S., (258) vol. vi, 1868, p. 342, pl. liv, f. 28; Obs. Gen. Unio, (259) vol. xii, p. 102, pl. liv, f. 28.

A. flamm~ta.
P. A. P. S., (48) vol. ii, 1842, p. 243; T. A. P. S., (51) vol. ix, 1842, pp. 29, 30; Obs. Gen. Unio, (56) vol. iv, pp. 29, 30.

A. Foremani.
P. A. P. S., (48) vol. ii, 1842, p. 243; T. A. P. S., (51) vol. ix, 1842, p. 29; Gen. Obs. Unio, (56) vol. iv, p. 29.

A. formosa.
P. A. N. S., (182) vol. xii, 1860, p. 187; J. A. N. S., (214) vol. v, 1862, p. 254, pl. xxxv, f. 61; Obs. Gen. Unio, (215) vol. ix, p. 76, pl. xxxv, f. 61.

A. gibbosa.
P. A. P. S., (39) vol. ii, 1841, p. 34; T. A. P. S., (51) vol. ix, 1841, p. 15; Obs. Gen. Unio, (56) vol. iv, p. 15.

A. Griffithiana.
P. A. P. S., (40) vol. ii, 1841, p. 83; T. A. P. S., (51) vol. ix, 1841, p. 20; Obs. Gen. Unio, (56) vol. iv, p. 20.

A. incisa.
P. A. P. S., (48) vol. ii, 1842, p. 243; T. A. P. S. (51) vol. ix, 1842, p. 28; (55) vol. x, 1845, p. 93; Obs. Gen. Unio, (56) vol. iv, pp. 28, 93.

A. inflata.
T. A. P. S., (43) vol. viii, 1841, p. 172; Obs. Gen. Unio, (44) vol. iii, p. 10.

A. Lewisii.
P. A. N. S., (193) vol. xiii, 1861, p. 54; J. A. N. S., (214) vol. v, 1862, p. 257, pl. xxxv, f. 64; Obs. Gen. Unio, (215) vol. xi, p. 79, pl. xxxv, f. 64.

A. picta.
J. A. N. S., (214) vol. v, 1862, p. 255; Obs. Gen. Unio, (215) vol. ix, p. 77.

A. prærosa.
T. A. P. S., (55) vol. x, 1845, p. 92; J. A. N. S., (214) vol. v, 1862, pp. 255, 256; (243) vol. vi, 1866, p. 150; Obs. Gen. Unio, (56) vol. iv, p. 92; (215) vol. ix, pp. 77, 78; (244) vol. xi, p., 106.

A. rubiginosa.
P. A. P. S., (40) vol. ii, 1841, p. 83; T. A. P. S., (51) vol. ix, 1841, p. 20; Obs. Gen. Unio, (56) vol. iv, p. 20; (215) vol. ix, p. 43; J. A. N. S., (214) vol. v, 1862, p. 221.

A. Showalterii.
P. A. N. S., (178) vol. xii, 1860, p. 93; J. A. N. S., (214) vol. v, 1862, p. 255, pl. xxxv, f. 62; Obs. Gen. Unio, (215) vol. ix, p. 77, pl. xxxv, f. 62.

Anculosa solida.
P. A. P. S., (48) vol. ii, 1842, p. 243; T. A. P. S., (51) vol. ix, 1842, p. 29; Obs. Gen. Unio, (56) vol, iv, p. 29.

A. squalida.
T. A. P. S., (55) vol. x, 1845, p. 92, pl. ix, f. 50; Obs. Gen. Unio, (56) vol. iv, p. 92, pl. ix, f. 50; P. A. P. S., (53) vol, iv, 1845, p. 167.

A. subglobosa.
T. A. P. S., (51) vol. ix, 1841, p. 15; Obs. Gen. Unio, (56) vol. iv, p. 15.

A. tintinnabulum.
T. A. P. S., (55) vol. x, 1845, p. 93, pl. ix, f. 51; J. A. N. S., (214) vol. v, 1862, p. 258; Obs. Gen. Unio, (56) vol. iv, p. 93, pl. ix, f. 51; (215) vol. ix, p. 80; P. A. P. S., (53) vol. iv, 1845, p. 167.

A. Troostiana.
P. A. P. S., (39) vol. ii, 1841, p. 34; T. A. P. S., (51) vol. ix, 1841, p. 15; Obs. Gen. Unio, (56) vol. iv, p. 15.

A. tuberculata.
P. A. P. S., (40) vol. ii, 1841, p. 83; T. A. P. S., (51) vol. ix, 1841, p. 21; Obs. Gen. Unio, (56) vol. iv, p. 21.

A. turbinata.
P. A. N. S., (193) vol. xiii, 1861, p. 54; J. A. N. S., (214) vol. v, 1862, p. 254, pl. xxxv, f. 60; Obs. Gen. Unio, (215) vol. ix, p. 76, pl. xxxv, f. 60.

A. variabilis.
P. A. P. S., (39) vol. ii, 1841, p. 34; T. A. P. S., (51) 1841, p. 15; Obs. Gen. Unio, (56) vol. iv, p. 15.

A. vittata.
P. A. N. S., (182) vol. xii, 1860, p. 188; J. A. N. S., (214) vol. v, 1862, p. 256, pl. xxxv, f. 63; Obs. Gen. Unio, (215) vol. ix, p. 78, pl. xxxv, f. 63.

ANCULOTUS.
T. A. P. S., (51) vol. ix, 1841, p. 14; Obs. Gen. Unio, (56) vol. iv, p. 14.

A. carinatus.
T. A. P. S., (43) vol. viii, 1841, p. 172; Obs. Gen. Unio, (44) vol. iii, p. 10.

A. costatus.
T. A. P. S., (43) vol. viii, 1841, p. 173; Obs. Gen. Unio, (44) vol. iii, p. 11.

A. Kirtlandianus.
T. A. P. S., (43) vol. viii, 1841, p. 172; Obs. Gen. Unio, (44) vol. iii, p. 10.

A. subglobosa.
T. A. P. S., (51) vol. ix, 1841, p. 14; Obs. Gen. Unio, (56) vol. iv, p. 14.

Ancylus crassus.
J. A. N. S., (243) vol. vi, 1866, p. 186; Obs. Gen. Unio, (244) vol. xi, p. 142.

A. Nuttallii.
J. A. N. S., (243) vol. vi, 1866, p. 186; Obs. Gen. Unio, (244) vol. xi, p. 142.

A. Newberryi.
P. A. N. S., (143) vol. x, 1858, p. 166; J. A. N. S., (243) vol. vi, 1866, p. 185, pl. xxiv, f. 116; Obs. Gen. Unio, (244) vol. xi, p. 141, pl. xxiv, f. 116.

Ancylus patelloides.
P. A. N. S., (109) vol. viii, 1856, p. 80; J. A. N. S., (243) vol. vi, 1866, p. 185, pl. xxiv, f. 117; Obs Gen. Unio, (244) vol. xi, p. 141, pl. xxiv, f. 117.

A. præclarus.
J. A. N. S., (243) vol. vi, 1866, p. 185; Obs. Gen. Unio, vol. xi, p. 141.

ANODON.
T. A. P. S., (27) vol. vi, 1838, p. 115; Obs. Gen. Unio, (29) vol. ii, p. 115.

A. alatus.
T. A. P. S., (12) vol. iii, 1829, p. 443; Obs. Gen. Unio, (21) vol. i, p. 57.

A. arcolatus.
T. A. P. S., (15) vol. iv, 1830, p. 67; (27) vol. vi, 1838, pp. 115, 138; (43) vol. viii, 1840, p. 222; Obs. Gen. Unio, (21) vol. i, p. 77; (29) vol. ii, pp. 115, 138; (44) vol. iii, p. 60.

A. crassus.
T. A. P. S., (20) vol. v, 1833, p. 78; Obs. Gen. Unio, (21) vol. i, p. 190.

A. purpurascens.
T. A. P. S., (12) vol. iii, 1829, p. 454; Obs. Gen. Unio, (21) vol. i, p. 68.

A. radiatus.
J. A. N. S., (133) vol. iii, 1857, p. 317; Obs. Gen. Unio, (150) vol. vi, p. 37.

A. rugosus.
T. A. P. S., (12) vol. iii, 1829, p. 425; (27) vol. vi, 1838, p. 138; Obs. Gen. Unio, (21) vol. i, p. 39; (29) vol. ii, p. 138.

ANODONTA.
T. A. P. S., (12) vol. iii, 1829, p. 442; (27) vol. vi, 1838, pp. 114, 115, 117, 118, 136, 142, 149, 150; (43) vol. viii, p. 230; J. A. N. S., (147) vol. iv, 1858, pp. 44, 46; (213) vol. v, 1862, p. 216; (221) vol. v, 1863, pp. 447, 451, 453; P. A. N. S., (167) vol. xii, 1860, p. 3; (173) p. 85; (179) p. 97; Obs. Gen. Unio, (21) vol. i, p. 56; (29) vol. ii, pp. 114, 115, 117, 118, 136, 142, 149, 150; (44) vol. iii, p. 68; (150) vol. vi, pp. 44, 46; (170) vol. vii, Introduction; (205) vol. viii, Introduction; (215) vol. ix, p. 38; (222) vol. x, pp. 83, 87, 89; (244) vol. xi, Introduction; Proc. Zoöl. Soc. Lond., (60) vol. xviii, 1850, p. 197; P. A. N. S., (118) vol. ix, 1857, p. 18.

A. Abyssina.
T. A. P. S., (27) vol. vi, 1838, pp. 140, 150; Obs. Gen. Unio, (29) vol. ii, pp. 140, 150.

A. alatus.
T. A. P. S., (27) vol. vi, 1838, p. 136; Obs. Gen. Unio, (29) vol. ii, p. 136.

A. Amazonensis.
P. A. N. S., (175) vol. xii, 1860, p. 89; J. A. N. S., (220) vol. v, 1863, p. 395, pl. xlvi, f. 300; Obs. Gen. Unio, (222) vol. x, p. 31, pl. xlvi, f. 300.

A. anatina.
T. A. P. S., (20) vol. v, 1833, pp. 92, 93; (27) vol. vi, 1838, p. 137; Obs. Gen. Unio, (21) vol. i, pp. 204, 205; (29) vol. ii, p. 137.

A. angulata.
T. A. P. S., (27) vol. vi, 1838, pp. 97, 140, 149; (43) vol. viii, 1842, p. 246; J. A. N. S., (243) vol. vi, 1866, p. 155; P. A. N. S., (109) vol. viii, 1856, p. 81; Obs. Gen. Unio, (29) vol. ii, pp. 97, 140, 149; (44) vol. iii, p. 84; (244) vol. xi, p. 111.

Anodonta anserina.
T. A. P. S., (27) vol. vi, 1838, pp. 139, 149; J. A. N. S., (220) vol. v, 1863, pp. 393, 397; Obs. Gen. Unio, (29) vol. ii, pp. 139, 149; (222) vol. x, pp. 29, 33.

A. aperta.
T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

A. arcuata.
T. A. P. S., (27) vol. vi, 1838, pp. 140, 149, 150; J. A. N. S., (168) vol. iv, 1859, pp, 237, 261; Obs. Gen. Unio, (29) vol. ii, pp. 140, 149, 150; (170) vol. vii, pp. 55, 79; Proc. Zoöl. Soc. Lond., (60) vol. xviii, 1850, p. 199.

A. areolatus.
T. A. P. S., vol. vi, 1838, pp. 47, 135; (79) vol. x, 1852, p. 289; Obs. Gen. Unio, (29) vol. ii, pp. 47, 135; (83) vol. v, p. 45.

A. areolus.
T. A. P. S., (20) vol. v, 1832, p. 45; Obs. Gen. Unio, (21) vol. i, p. 157.

A. argentea.
P. A. P. S., (35) vol. i, 1840, p. 289; T. A. P. S., (43) vol. viii, 1840, p. 223; pl. xix, f. 41; Obs. Gen. Unio, (44) vol. iii, p. 61; pl. xix, f. 41.

A. Arkansensis.
T. A. P. S., (79) vol. x, 1852, p. 293; pl. xxix, f. 56; Obs. Gen. Unio, (83) vol. v, p. 49; pl. xxix, f. 56; P. A. N. S., (93) vol. v, 1852, p. 252.

A. atra.
T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

A. Bealei.
J. A. N. S., (242) vol. vi, 1866, p. 26, pl. ix, f. 25; Obs. Gen. Unio, (244) vol. xi, p. 30; pl. ix, f. 25.

A. Benedictensis.
T. A. P. S., (27) vol. vi, 1836, p. 77; 1838, pp. 137, 149; Obs. Gen. Unio, (29) vol. ii, pp. 77, 137, 149.

A. Benedictii.
J. A. N. S., (242) vol. vi, 1866, p. 28; Obs. Gen. Unio, (244) vol. xi, p. 32.

A. Blainvilliana.
T. A. P. S., (20) vol. v, 1833, p. 77, pl. xii, f. 35; (27) vol. vi, 1838, pp. 39, 140, 149; Obs. Gen. Unio, (21) vol. i, p. 189, pl. xii, f. 35; (29) vol. ii, pp. 139, 140, 149; (222) vol. x, pp. 13, 30, 52; J. A. N. S., (220) vol. v, 1863, pp. 377, 394.

A. Bridgesii.
J. A. N. S., (257) vol. vi, 1868, p. 291, pl. xlii, f. 104; Obs. Gen. Unio, (259) vol. xii, p. 51, pl. xlii, f. 104; P. A. N. S., (248) vol. xx, 1868, p. 95.

A. Buchanensis.
T. A. P. S., vol. vi, 1836, p. 47; 1838, pp. 140, 149, pl. xiv, f. 43; Obs. Gen. Unio, (29) vol. ii, pp. 47, 140, 149, pl. xiv, f. 43.

A. Burroughiana.
T. A. P. S., vol. v, 1834, p. 105, pl. xvi, f. 49; Obs. Gen. Unio, (21) vol. i, p. 117, pl. xvi, f. 49.

Anodonta Cailliaudii.
P. A. N. S., (187) vol. xii, 1860, p. 308; J. A. N. S., (220) vol. v, 1863, p. 395, pl. xlv, f. 297; Obs. Gen. Unio, (222) vol. x, p. 31, pl. xlv, f. 297.

A. Californiensis.
A. P. P. S., (93) vol. v, 1852, p. 252; T. A. P. S., (79) vol. x, 1852, p. 286, pl. xxv, f. 47; Obs. Gen. Unio, (83) vol. v, p. 42, pl. xxv, f. 47.

A. cataracta.
T. A. P. S., (15) vol. iv, 1830, pp. 46, 48, 82; (27) vol. vi, 1834, p. 2, 1836, pp. 51, 80, 1838, p. 138; Obs. Gen. Unio, (21) vol. i, pp. 92, 158, 160; (29) vol. ii, pp. 2, 51, 80, 138; (244) vol. xi, p. 32; J. A. N. S., (242) vol. vi. 1866, p. 28.

A. cellensis.
T. A. P. S., (27) vol. vi, 1838, p. 137; Obs. Gen. Unio, (29) vol. ii, p. 137.

A. Chaiziana.
T. A. P. S., (27) vol. vi, 1838, pp. 138, 149; Obs. Gen. Unio, (29) vol. ii, pp. 138, 149; (244) vol. xi, p. 41; J. A. N. S., (242) vol. vi, 1866, p. 37.

A. Chinensis.
T. A. P. S., (27) vol. vi, 1838, pp. 140, 150; Obs. Gen. Unio, (29) vol. ii, pp. 140, 150.

A. Chiquitana.
T. A. P. S., (27) vol. vi, 1838, p. 138; Obs. Gen. Unio, (29) vol. ii, p. 138.

A. Clappertoni.
T. A. P. S., (27) vol. vi, 1838, p. 141; Obs. Gen. Unio, (29) vol. ii, p. 141.

A. compressa.
T. A. P. S., (27) vol. vi, 1838, p. 137; Obs. Gen. Unio, (29) vol. ii, p. 137.

A. compresso-alata.
T. A. P. S., (12) vol. iii, 1829, p. 443; Obs. Gen. Unio, (21) vol. i, p. 57.

A. corpulenta.
T. A. P. S., (27) vol. vi, 1838, p. 139; Obs. Gen. Unio, (29) vol. ii, p. 139.

A. corpulentoides.
P. A. N. S., (255) vol. xx, 1868, p. 164.

A. Couperiana.
T. A. P. S., (43) vol. viii, 1840, pp. 227, 249, pl. xx, f. 46; Obs. Gen. Unio, (44) vol. iii, pp. 65, 87, pl. xx, f. 46; (222) vol. x, p. 87; J. A. N. S., (221) vol. v, 1863, p. 451.

A. Cowperiana.
P. A. P. S., (33) vol. i, 1840, p. 288.

A. crassa.
T. A. P. S., (20) vol. v., p. 78; (27) vol. vi, 1838, pp. 138, 140, 149; Obs. Gen. Unio, (29) vol. ii, pp. 138, 140, 149.

A. crepera.
P. Zoöl. Soc., Lond., (60) vol. xviii, 1850, p. 198; J. A. N. S., (168) vol. iv, 1859, p. 238, pl. xxxiv, f. 117; Obs. Gen. Unio, (170) vol. vii, p. 56, pl. xxxiv, f. 117.

A. crispata.
T. A. P. S., (20) vol. v, 1833, p. 93; (27) vol. vi, 1838, pp. 137, 150; (79) vol. x, 1852, p. 291; J. A. N. S., (133) vol. iii, 1857, p. 313; Obs. Gen. Unio, (21) vol. i, p. 205; (29) vol. ii, pp. 137, 150; (83) vol. v, p. 47; (150) vol. vi, p. 33.

Anodonta Cumingii.
P. Zoöl. Soc. Lond., (60) vol. xviii, 1850, p. 199; J. A. N. S., (168) vol. iv, 1859, p. 235; Obs. Gen. Unio, (170) vol. vii, p. 53.

A. cuneata.
T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

A. curvatus.
T. A. P. S., (27) vol. vi, 1838, pp. 140,150; Obs. Gen. Unio, (29) vol. ii, pp. 140,150.

A. cygnea.
T. A. P. S., (15) vol. iv, 1830, p. 67; (20) vol. v, 1833, pp. 92, 93; J. A. N. S., (159) vol. iv, 1859, p. 232, 1860, p. 366; Obs. Gen. Unio, (21) vol. i, pp. 77,204,205; (29) vol. ii, pp. 81, 137, 149; (170) vol. vii, p. 50; (205) vol. viii, p. 48.

A. cylindracea.
T. A. P. S., (27) vol. vi, 1836, p. 45, 1838, pp. 140, 149; Obs. Gen. Unio, (29) vol. ii, pp. 45, 140, 149, pl. xiii, f. 40.

A. Dahomeyensis.
P. A. N. S., (152) vol. xi, 1859, p. 154; J. A. N. S., (168) vol. iv, 1859, p. 261, pl. xli, f. 141; Obs. Gen. Unio, (170) vol. vii, p. 79, pl. xli, f. 141.

A. Dallasiana.
P. A. N. S., (217) vol. xv, 1863, p. 190; J. A. N. S., (242) vol. vi, 1866, p. 29, pl. xi, f. 28; Obs. Gen. Unio, (244) vol. xi, p. 33, pl. xi, f. 28.

A. Danielsii.
P. A. N. S., (142) vol. x, 1858, p. 139; J. A. N. S., (189) vol. iv, 1860, p. 365, pl. lxiii, f. 190; Obs. Gen. Unio, (205) vol. viii, p. 47, pl. lxiii, f. 190.

A. Dariensis.
P. A. N. S., (142) vol. x, 1858, p. 139; J. A. N. S., (159) vol. iv, 1859, p. 230, pl. xxviii, f. 99; Obs. Gen. Unio, (170) vol. vii, p. 48, pl. xxviii, f. 99.

A. declivis.
T. A. P. S., (27) vol. vi, 1838, p. 138; Obs. Gen. Unio, (29) vol. ii, p. 138.

A. decora.
T. A. P. S., (27) vol. vi, 1836, pp. 64, 138, 149; (43) vol. viii, 1840, p. 224; J. A. N. S., (147) vol. iv, 1858, p. 49, pl. v, f. 34; (189) vol. iv, 1860, p. 366; (213) vol. v, 1862, p. 213; (221) vol. v, 1863, pp. 452,453; P. A. N. S., (135) vol. x, 1858, pp. 13, 14; Obs. Gen. Unio, (29) vol. ii, pp. 64, 138, 149, pl. xx, f. 63; (44) vol. iii, p. 62; (150) vol. vi, p. 49, pl. v, f. 34; (205) vol. viii, p. 48; (215) vol. ix, p. 35; (222) vol. x, p. 88, 89.

A. denigrata.
P. A. P. S., (93) vol. v, 1852, p. 252; T. A. P. S., (79) vol. x, 1852, pp. 285, 290, pl. xxv, f. 45; Obs. Gen. Unio, (83) vol. v, pp. 41, 46, pl. xxv, f. 45.

A. dentiens.
T. A. P. S., (27) vol. vi, 1838, p. 137; Obs. Gen. Unio, (29) vol. ii, p. 137.

A. digonota.
T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

A. dipsas.
T. A. P. S., (27) vol. vi, 1838, p. 136; Obs. Gen. Unio, (29) vol. ii, p. 136.

Anodonta doliaris.
J. A. N. S., (220) vol. v, 1863, p. 393; (242) vol. vi, 1866, p. 24, pl. viii, f. 23; Obs. Gen. Unio, (222) vol. x, p. 29; (244) vol. xi, p. 28, pl. viii, f. 23.

A. Dallasiana.
J. A. N. S., (242) vol. vi, 1866, p. 29, pl. xi, f. 28; Obs. Gen. Unio, (244) vol. xi, p. 33, pl. xi, f. 28.

A. dubia.
T. A. P. S., (27) vol. vi, 1838, p. 141; Obs. Gen. Unio, (29) vol. ii, p. 141.

A. Dunlapiana.
T. A. P. S., (43) vol. viii, 1842, p. 248, pl. xxvii, f. 65; P. A. P. S., (45) vol. ii, p. 225; J. A. N. S., (159) vol. iv, 1859, p. 232; (189) vol. iv, 1560, p. 374; Obs. Gen. Unio, (44) vol. iii, p. 86, pl. xxvii, f. 65; (170) vol. vii, p. 50; (205) vol. viii, p. 56.

A. edentula.
T. A. P. S., (27) vol. vi, 1836, pp. 55, 56, 1838, pp. 138,149; (43) vol. viii, 1841, p. 231; (55) vol. x, 1845, p. 82; (79) vol. x, 1852, p. 289; J. A. N. S., (147) vol. iv, 1858, p. 50, pl. v, f. 37; (203) vol. v, 1861, p. 107; (221) vol. v, 1863, pp. 451, 453; (242) vol. vi, 1866, p. 27; Obs. Gen. Unio, (29) vol. ii, pp. 55, 56, 138, 139; (44) vol. iii, p. 69; (56) vol. iv, p. 82; (83) vol. v, p. 45; (150) vol. vi, p. 50, pl. v, f. 37; (205) vol. viii, p. 111; (222) vol. x, pp. 87, 89; (244) vol. xi, p. 31.

A. elongata.
T. A. P. S., (20) vol. v, 1833, p. 80; (27) vol. vi, 1838, pp. 140,149; Obs. Gen. Unio, (21) vol. i, p. 192; (29) vol. ii, pp. 140, 149.

A. ensiformis.
T. A. P. S., (27) vol. vi, 1838, pp. 140,149; (79) vol. x, 1852, p. 293; Obs. Gen. Unio, (29) vol. ii, pp. 140, 149.

A. esula.
T. A. P. S., (27) vol. vi, 1838, pp. 140,149; Obs. Gen. Unio, (29) vol. ii, pp. 140, 149.

A. exilior.
P. A. N. S., (266) vol. xxiv, 1872, p. 188.

A. exilis.
T. A. P. S., (27) vol. vi, 1836, p. 81, pl. xxii, f. 68; 1838, pp. 140, 150; (79) vol. x, 1852, p. 293; Obs. Gen. Unio, (29) vol. ii, pp. 81, 140, 150, pl. xxii, f. 68; (83) vol. v, p. 49; (244) vol. xi, p. 35; J. A. N. S., (242) vol. vi, 1866, p. 31.

A. exotica.
T. A. P. S., (20) vol. v, 1833, pp. 78, 79, 93; (29) vol. vi, 1838, pp. 139, 141; Obs. Gen. Unio, (21) vol. i, pp. 190, 191, 205; (29) vol. ii, pp. 139, 141.

A. feminalis.
P. A. N. S., (109) vol. viii, 1856, p. 81; J. A. N. S., (243) vol. vi, 1866, p. 155; Obs. Gen. Unio, (244) vol. xi, p. 111.

A. Ferrarisii.
T. A. P. S., (27) vol. vi, 1838, p. 140; Obs. Gen. Unio, (29) vol. ii, p. 140.

A. ferruginea.
P. A. P. S., (35) vol. i, 1840, p. 289; T. A. P. S., (43) vol. viii, 1840, p. 225, pl. xix, f. 43; Obs. Gen. Unio, (44) vol. iii, p. 63, pl. xix, f. 43.

Anodonta Ferussaciana.

T. A. P. S., (20) vol. v, 1832, pp. 45, 46, pl. vi, f. 15; (27) vol. vi, 1836, pp. 46, 55, 79; 1838, pp. 106, 138, 149; (43) vol. viii, 1841, pp. 224, 231; (79) vol. x, 1852, p. 285; J. A. N. S., (147) vol. iv, 1858, p. 50, pl. v, f. 35; (170) vol. iv, 1859, p. 226; (189) vol. iv, 1860, p. 365; (203) vol. v, 1861, p. 109; (213) vol. v, 1862, p. 213; (221) vol. v, 1863, p. 451; P. A. N. S., (135) vol. x, 1858, pp. 13, 14; Obs. Gen. Unio, (21) vol. i, pp. 157, 158, pl. vi, f. 15; (29) vol. ii, pp. 46, 47, 48, 51, 55, 79, 106, 138, 149; (44) vol. iii, pp. 62, 69; (83) vol. v, p. 41; (150) vol. vi, p. 50, pl. v, f. 35; (170) vol. vii, p, 44; (205) vol. viii, pp. 47, 113; (215) vol. ix, p. 35; (222) vol. x, p. 87.

A. fluviatilis.

T. A. P. S., (27) vol. vi, 1836, pp. 51, 52, 54, 80; 1838, pp. 118, 138, 149; (43) vol. viii, 1840, pp. 221, 249; (79) vol. x, 1852, p. 286; J. A. N. S., (133) vol. iii, 1857, p. 317; (159) vol. iv, 1859, pp. 231, 232; (189) vol. iv, 1860, pp. 363, 364; (213) vol. v, 1862, pp. 213, 216; (221) vol. v, 1863, pp. 451, 455; (242) vol. vi, 1866, pp. 28, 29; Obs. Gen. Unio, (29) vol. ii, pp. 51, 52, 54, 80, 118, 138, 149; (44) vol. iii, pp. 59, 87; (83) vol. v, p. 42; (150) vi, p. 37; (170) vol. vii, pp. 49, 50; (205) vol. viii, pp. 45, 46; (215) vol. ix, pp. 35, 38; (222) vol. x, pp. 87, 91; (244) vol. xi, pp. 32, 33.

A. folium.

T. A. P. S., (27) vol. vi, 1838, pp. 140, 150; Obs. Gen. Unio, (29) vol. ii, pp. 140, 150.

A. Footiana.

P. A. N. S., (35) vol. i, 1840, p. 289; T. A. P. S., (43) vol. viii, 1840, p. 225, pl. xx, f. 44; J. A. N. S., (189) vol. iv, 1860, p. 364; Obs. Gen. Unio, (44) vol. iii, p. 63, pl. xx, f. 44; (205) vol. viii, p. 46.

A. Forbesiana.

P. A. N. S., (176) vol. xii, 1860, p. 92; J. A. N. S., (220) vol. v, 1863, pp. 393, 397, pl. xlvii, f. 301; Obs. Gen. Unio, (222) vol. x, pp. 29, 33; pl. xlvii, f. 301.

A. fragilis.

T. A. P. S., (20) vol. v, 1833, p. 93; (27) vol. vi, 1837, p. 96; 1838, pp. 138, 149; (43) vol. viii, 1840, p. 226; J. A. N. S., (189) vol. iv, 1860, p. 364; (203) vol. v, 1861, p. 109); (221) vol. v, 1863, p. 454; Obs. Gen. Unio, (21) vol. i, p. 205; (29) vol. ii, pp. 96, 138, 149; (44) vol. iii, p. 64; (205) vol. viii, pp. 46, 113; (222) vol. x, p. 90.

A. Georginæ.

T. A. P. S., (27) vol. vi, 1838, pp. 139, 149; Obs. Gen. Unio, (29) vol. ii, pp. 139, 149.

A. Gesnerii.

P. A. N. S., (142) vol. x, 1858, p. 139; J. A. N. S., (159) vol. iv, 1859, pp. 231, 232, pl. xxxi, f. 109; Obs. Gen. Unio, (170) vol. vii. pp. 49, 50, pl. xxxi, f. 109.

A. gibbosa.

T. A. P. S., (12) vol. iii, 1829, p. 443; (20) vol. v, 1832, p. 47; (27) vol. vi, 1838, pp. 139, 149; (43) vol. viii, 1840, pp. 226, 227; J. A. N. S., (159) vol. iv, 1859, p. 231; (203) vol. v, 1861, p. 106; Obs. Gen. Unio, (21) vol. i, pp. 57, 159; (29) vol. ii, pp. 139, 149; (44) vol. iii, pp. 64, 65; (170) vol. vii, p. 49; (205) vol. viii, p. 110.

Anodonta gigantea.

T. A. P. S., (20) vol. v, 1833, p. 93; (27) vol. vi, 1834, p. 1, pl. i, f. 1; (1838) pp. 139, 149; J. A. N. S., (221) vol. v, 1863, p. 454; Obs. Gen. Unio, (21) vol. i, p. 205; (29) vol. ii, pp. 1, 139, 149, pl. i, f. 1; (222) vol. x, p. 90.

A. glauca.

T. A. P. S., (12) vol. iii, 1829, p. 443; (20) vol. v, 1833, p. 94; 27 vol. vi, 1838, pp. 138, 149; (79) vol. x, 1852, p. 292; Obs. Gen. Unio, (21) vol. i, pp. 57, 206; (29) vol. ii, pp. 138, 149; (83) vol. v, p. 48.

A. globosa.

P. A. P. S., (39) vol. ii, 1841, p. 31; T. A. P. S., (43) vol. viii, 1841, p. 241, pl. xxiv, f. 56; (79) vol. x, 1852, p. 289; Obs. Gen. Unio, (44) vol. iii, p. 79, pl. xxiv, f. 56.

A. gracilis.

P. Zoöl. Soc., Lond., (60) vol. xviii, 1850, p. 197; J. A. N. S., (168) vol. iv, 1859, p. 239, pl. xxxiv, f. 119; Obs. Gen. Unio, (170) vol. vii, p. 57, pl. xxxiv, f. 119.

A. grandioides.

P. A. N. S., (255) vol. xx, 1868, p. 164.

A. Granadensis.

J. A. N. S., (257) vol. vi, 1868, p. 288, pl. xli, f. 100; Obs. Gen. Unio, (259) vol. xii, p. 48, pl. xli, f. 100; P. A. N. S., (248) vol. xx, 1868, p. 96.

A. grandis.

T. A. P. S., (27) vol. vi, 1838, pp. 139, 149; Obs. Gen. Unio, (29) vol. ii, pp. 139, 149.

A. grossa.

T. A. P. S., (27) vol. vi, 1838, p. 137; Obs. Gen. Unio, (29) vol. ii, p. 137.

A. Hallenbeekii.

P. A. N. S., (142) vol. x, 1858, p. 138; J. A. N. S., vol. iv, 1859, p. 232, pl. 32, f. 112; Obs. Gen. Unio, (170) vol. vii, p. 50, pl. xxxii, f. 112.

A. Harpethensis.

P. A. P. S., (35) vol. i, 1840, p. 289; T. A. P. S., (43) vol. viii, 1840, p. 224, pl. xix. f. 42; Obs. Gen. Unio, (44) vol. iii, p. 62, pl. xix, f. 42.

A. Henryana.

P. A. P. S., (125) vol. ix, 1857, p. 102; J. A. N. S., (189) vol. iv, 1860, p. 373, pl. lxvi, f. 198; Obs. Gen. Unio, (205) vol. viii, p. 55, pl. lxvi, f. 198.

A. Holtonis.

P. A. P. S., (122) vol. ix, 1857, p. 85; J. A. N. S., (133) vol. iii, 1857, p. 316, pl. xxxii, f. 31; Obs. Gen. Unio, (150) vol. vi, p. 36, pl. xxxii, f. 31.

A. imbecilis.

T. A. P. S., (27) vol. vi, 1838, p. 138; J. A. N. S., (147) vol. iv, 1858, p. 50, pl. v, f. 36; (148) vol. iv, 1858, p. 51; (221) vol. v, 1863, pp. 409, 449; Obs. Gen. Unio, (29) vol. ii, p. 138; (150) vol. vi, pp. 50, 51, pl. v, f. 36; (222) vol. x, pp. 45, 85.

A. implicata.

T. A. P. S., (27) vol. vi, 1838, p. 138; Obs. Gen. Unio, (29) vol. ii, p. 138; (244) vol. xi, pp. 32, 33; J. A. N. S., (242) vol. vi, 1866, pp. 28, 29.

A. impura.

T. A. P. S., (27) vol. vi, 1838, pp. 140, 150; Obs. Gen. Unio, (29) vol. ii, pp. 140, 150.

Anodonta inæquivalva.
J. A. N. S., (257) vol. vi, 1868, p. 292; pl. xliii, f. 108; Obs. Gen. Unio, (259) vol. xii, p. 52; pl. xliii, f. 108; P. A. N. S., (248) vol. xx, 1868, p. 95.

A. incerta.
T. A. P. S., (20) vol. v, 1832, pp. 45, 46, pl. vi, f. 16; (27) vol. vi, 1836, pp. 47, 55; 1838, pp. 138, 149; (43) vol. viii, 1840, 227; 1841, p. 231; Obs. Gen. Unio, (21) vol. i, pp. 157, 158; pl. vi, f. 16; (29) vol. ii, pp. 47, 55, 138, 149; (44) vol. iii, pp. 65, 69; P. A. N. S., (101) vol. vii, 1854, p. —.

A. inflata.
T. A. P. S., (27) vol. vi, 1838, pp. 139, 144; Obs. Gen. Unio, (29) vol. ii, pp. 139, 144.

A. intermedia.
T. A. P. S., (20) vol. v, 1833, p. 93; (27) vol. vi, 1838, p. 137; Obs. Gen. Unio, (29) vol. ii, p. 137.

A. Jewettii.
J. A. N. S., (257) vol. vi, 1868, p. 289, pl. xli, f. 101; Obs. Gen. Unio, (259) vol. xii, p. 49, pl. xli, f. 101; P. A. N. S., (248) vol. xx, 1868, p. 95.

A. Kennerlyi.
P. A. N. S., (185) vol. xii, 1860, p. 306; J. A. N. S., (203) vol. v, 1861, p. 108, pl. xviii, f. 256; Obs. Gen. Unio, (205) vol. viii, p. 112, pl. xviii, f. 256.

A. Kennicottii.
P. A. N. S., (195) vol. xiii, p. 56; J. A. N. S., (213) vol. v, 1862, pp. 212, 214, pl. xxxiii, f. 283; (242) vol. vi, 1866, p. 30; Obs. Gen. Unio, (215) vol. ix, pp. 34, 36, pl. xxxiii, f. 283; (244) vol. xi, p. 34.

A. lata.
T. A. P. S., (27) vol. vi, 1838, pp. 131, 144; Obs. Gen. Unio, (29) vol. ii, pp. 131, 144.

A. lato-marginata.
T. A. P. S., (20) vol. v, 1833, p. 76, pl. xii, f. 34; (27) vol. vi, 1838, pp. 139, 149; Obs. Gen. Unio, (21) vol. i, p. 188, pl. xii, f. 34; (29) vol. ii, pp. 139, 149; (170) vol. vii. p. 55; (222) vol. x, pp. 13, 27, 30; J. A. N. S., (168) vol. iv, 1859, p. 237; (220) vol. v, 1863, pp. 377, 391, 393; P. Zool. Soc., Lond., (60) vol. xviii. 1850, p. 199; P. A. N. S., (179) vol. xii, 1860, p. 97.

A. lacustris.
P. A. N. S., (118) vol. ix, 1857, p. 18; (121) vol. ix, 1857, p. 84; J. A. N. S., (189) vol. iv, 1860, p. 363, pl. lxii, f. 188; Obs. Gen. Unio, (205) vol. viii, p. 45, pl. lxii, f. 188.

A. lenticularis.
J. A. N. S., (257) vol. vi, 1868, p. 290, pl. xli, f. 102; Obs. Gen. Unio, (259) vol. xii, p. 50, pl. xli, f. 102; P. A. N. S., (248) vol. xx, 1868, p. 95.

A. Leonensis.
J. A. N. S., (242) vol. vi, 1866, p. 25, pl. ix, f. 24; (274) vol. viii, 1874, p. 67; Obs. Gen. Unio, (244) vol. xi, p. 29, pl. ix, f. 24; (275) vol. xiii, p. 71; P. A. N. S., (206) vol. xiv, 1862, p. 169.

Anodonta Lewisii.
P. A. N. S., (121) vol. ix, 1857, p. 24; J. A. N. S., (147) vol. iv, 1858, p. 49, pl. v, f. 32; (189) vol. iv, 1860, pp. 362, 364, pl. lxii, f. 187; (221) vol. v, 1863, pp. 452, 454; Obs. Gen. Unio, (150) vol. vi, p. 49, pl. v, f. 32; (205) vol. viii, pp. 44, 46, pl. lxii, f. 187; (222) vol. x, pp. 88, 90.

A. Linnæana.
P. A. P. S., (93) vol. v, 1852, p. 252; T. A. P. S., (79) vol. x, 1852, pp. 289, 291, pl. xxvii, f. 51; Obs. Gen. Unio, (83) vol. v, pp. 45, 47, pl. xxvii, f. 51.

A. limnoica.
T. A. P. S., (27) vol. vi, 1838, pp. 138, 149; Obs. Gen. Unio, (29) vol. ii, pp. 138, 149.

A. lituratum.
T. A. P. S., (27) vol. vi, 1838, p. 139; Obs. Gen. Unio, (29) vol. ii, p. 139.

A. longinus.
T. A. P. S., (27) vol. vi, 1838, p. 142; Obs. Gen. Unio, (29) vol. ii, p. 142.

A. lucida.
T. A. P. S., (27) vol. vi, 1838, p. 140; Obs. Gen. Unio, (29) vol. ii, p. 140.

A. lugubris.
T. A. P. S., (27) vol. vi, 1838, pp. 140, 150; Obs. Gen. Unio, (29) vol. ii, pp. 140, 150.

A. luteola.
P. A. N. S., (140) vol. x, 1858, p. 118; J. A. N. S., (168) vol. iv, 1859, p. 267, pl. xliii, f. 147; Obs. Gen. Unio, (170) vol. vii, p. 85, pl. xliii, f. 147.

A. magnifica.
T. A. P. S., (27) vol. vi, 1838, pp. 137, 149; Obs. Gen. Unio, (29) vol. ii, pp. 137, 149; (150) vol. vi, p. 40; J. A. N. S., (133) vol. iii, 1857, p. 320.

A. marginata.
T. A. P. S., (27) vol. vi, 1838, p. 138; Obs. Gen. Unio, (29) vol. ii, p. 138; J. A. N. S., (242) vol. vi, 1866, p. 27; Obs. Gen. Unio, (244) vol. xi, p. 31.

A. Maryattana.
P. A. P. S., (35) vol. i, 1840, p. 289; T. A. P. S., (43) vol. viii, 1840, p. 226; Obs. Gen. Unio, (44) vol. iii, p. 64, pl. lxiv, f. 45.

A. modesta.
P. A. N. S., (121) vol. ix, 1857, p. 84; J. A. N. S., (189) vol. iv, 1860, p. 364, pl. xliii, f. 189; Obs. Gen. Unio, (205) vol. viii, p. 46, pl. lxiii, f. 189.

A. Montezuma.
P. A. P. S., (39) vol. ii, 1841, p. 31; T. A. P. S., (43) vol. viii, 1841, p. 240, pl. xxiii, f. 55; Obs. Gen. Unio, (44) vol. iii, p. 78, pl. xxiii, f. 55.

A. Moricandii.
P. A. N. S., (175) vol. xii, 1860, p. 89; J. A. N. S., (220) vol. v, 1863, p. 396, pl. xlix, f. 303; Obs. Gen. Unio, (222) vol. x, p. 32, pl. xlix, f. 303.

A. Mortoniana.
T. A. P. S., (20) vol. v, 1833, p. 80, pl. xiii, f. 37; (27) vol. vi, 1838, pp. 138, 150; Obs. Gen. Unio, (21) vol. i, p. 192, pl. xiii, f. 37; (29) vol. ii, pp. 138, 150.

Anodonta Napocnsis.
J. A. N. S., (258) vol. vi, 1868, p. 324, pl. liii, f. 137; Obs. Gen. Unio, (259) vol. xii, p. 84; P. A. N. S., (254) vol. xx, 1868, p. 162.

A. Newtonensis.
T. A. P. S., vol. vi, 1836, p. 79, pl. xxi, f. 66, 1838, pp. 138, 149; J. A. N. S., vol. vi, 1866, p. 28; Obs. Gen. Unio, (29) vol. ii, pp. 79, 138, 149, pl. xxi, f. 66.

A. Nuttalliana.
T. A. P. S., (27) vol. vi, 1836, p. 77, pl. xx, f. 62, 1838, pp. 137, 149; Obs. Gen. Unio, (29) vol. ii, pp. 77, 137, 149, pl. xx, f. 62.

A. oblita.
P. A. P. S., (93) vol. v, 1852, p. 252; T. A. P. S., (79) vol. x, 1852, p. 290; Obs. Gen. Unio, (83) vol. v, p. 46, pl. xxviii, f. 52.

A. obtusa.
T. A. P. S., (27) vol. vi, 1838, pp. 139, 150; Obs. Gen. Unio, (29) vol. ii, pp. 139, 150.

A. obvoluta.
T. A. P. S., (27) vol. vi, 1838, p. 137; Obs. Gen. Unio, (29) vol. ii, p. 137.

A. Ohiensis.
T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

A. opaca.
P. A. P. S., (93) vol. v, 1852, p. 252; T. A. P. S., (79) vol. x, 1852, p. 285, pl. xxv, f. 46; Obs. Gen. Unio, (83) vol. v, p. 41, pl. xxv, f. 46.

A. Oregonensis.
T. A. P. S., (27) vol. vi, 1836, p. 80, pl. xxi, f. 67, 1838, pp. 138, 149; J. A. N. S., (213) vol. v, 1862, p. 213; (221) p. 454; Obs. Gen. Unio, (29) vol. ii, pp. 67, 138, 149, pl. xxi, f. 67; (215) vol. ix, p. 35; (222) vol. x, p. 90.

A. ovata.
T. A. P. S., (27) vol. vi, 1834, p. 2, pl. ii, f. 2, 1838, pp. 138, 149; Obs. Gen. Unio, (29) vol. ii, pp. 2, 138, 149, pl. ii, f. 2; (150) vol. vi, p. 49, pl. v, f. 33; (222) vol. x, p. 88; J. A. N. S., (147) vol. iv, 1858, p. 49, pl. v, f. 33; (221) vol. v, 1863, p. 452.

A. pallida.
J. A. N. S., (221) vol. v, 1863, p. 455; Obs. Gen. Unio, (222) vol. x, p. 91.

A. palna. (Same as *plana.*)
T. A. P. S., (20) vol. v, 1832, p. 48, pl. vii. f. 18; Obs. Gen. Unio, (21) vol. i, p. 160, pl. vii, f. 18.

A. paludosus.
T. A. P. S., (27) vol. vi, 1838, p. 137; Obs. Gen. Unio, (29) vol. ii, p. 137.

A. Parishii.
T. A. P. S., (27) vol. vi, 1838, pp. 139, 150; Obs. Gen. Unio, (29) vol. ii, pp. 139, 150.

A. Patagonia.
T. A. P. S., (20) vol. v, 1833, p. 77; Obs. Gen. Unio, (21) vol. i, p. 189.

A. Patagonica.
T. A. P. S., (20) vol. v, 1833, p. 94; (27) vol. vi, 1838, pp. 139, 150; Obs. Gen. Unio, (21) vol. i, p. 206; (29) vol. ii, pp. 139, 150.

Anodonta pavonia.
T. A. P. S., (27) vol. vi, 1836, p. 78. pl. xxi, f. 65, 1838, pp. 138, 149; Obs. Gen. Unio, (29) vol. ii, pp. 65, 138, 149, pl. xxi, f. 65; (215) vol. ix, p. 38; J. A. N. S., (213) vol. v, 1862, p. 216.

A. Pazii.
J. A. N. S., (257) vol. vi, 1868, p. 274, pl. xxxvi, f. 86; Obs. Gen. Unio, (259) vol. xii, p. 34, pl. xxxvi, f. 86; P. A. N. S., (238) vol. xviii, p. 35.

A. pencillatus.
T. A. P. S., (27) vol. vi, 1838, p. 139; Obs. Gen. Unio, (29) vol. ii, p. 139.

A. Pennsylvanica.
T. A. P. S., (20) vol. v, 1833, p. 93; (27) vol. vi, 1838, p. 138; Obs. Gen. Unio, (21) vol. i, p. 205; (29) vol. ii, p. 138.

A. Pepiniana.
T. A. P. S., (27) vol. vi, 1837, p. 96, pl. xvi, f. 51; 1838, pp. 138, 149, 154; J. A. N. S., (213) vol. v, 1862, p. 214; Obs. Gen. Unio, (29) vol. ii, pp. 96, 138, 149, pl. xvi, f. 51; (215) vol. ix, p. 36.

A. piscinalis.
T. A. P. S., (27) vol. vi, 1838, p. 137; Obs. Gen. Unio, (29) vol. ii, p. 137.

A. plana. (See *palna.*)
T. A. P. S., (27) vol. vi, 1836, p. 64; 1838, pp. 138, 149; (43) vol. viii, 1841, p. 231; J. A. N. S., (221) vol. v. 1863, pp. 452, 453; Obs. Gen. Unio, (29) vol. ii, pp. 138, 149; (44) vol. iii, p. 69; (222) vol. x, pp. 88, 89; P. A. N. S., (101) vol. vii, 1854, p. —.

A. ponderosa.
T. A. P. S., (27) vol. vi, 1838, p. 137; Obs. Gen. Unio, (29) vol. ii, p. 137.

A. porcifer.
T. A. P. S., (27) vol. vi, 1838, pp. 139, 150; Obs. Gen. Unio, (29) vol. ii, pp. 139, 150.

A. proboscidalis.
T. A. P. S., (27) vol. vi, 1838, p. 137; Obs. Gen. Unio, (29) vol. ii, p. 137.

A. Puelchana.
T. A. P. S., (27) vol. vi, 1838, p. 140; Obs. Gen. Unio, (29) vol. ii, p. 140.

A. purpurascens.
T. A. P. S., (27) vol. vi, 1838, p. 133; Obs. Gen. Unio, (29) vol. ii, p. 133.

A. purpurea.
T. A. P. S., (27) vol. vi, 1838, pp. 138, 150; Obs. Gen. Unio, (29) vol. ii, pp. 138, 150.

A. pygmæa.
J. A. N. S., (257) vol. vi, 1868, p. 275; Obs. Gen. Unio, (259) vol. xii, p. 35.

A. pygmæum.
T. A. P. S., (27) vol. vi, 1838, p. 142; Obs. Gen. Unio, (29) vol. ii, p. 142.

A. radiatus.
T. A. P. S., vol. vi, 1838, p. 139; Obs. Gen. Unio, (29) vol. ii, p. 139.

A. Randalli.
P. A. N. S., (109) vol. viii, 1856, p. 81; J. A. N. S., (243) vol. vi, 1866, p. 155; Obs. Gen. Unio, (244) vol xi, p. 111.

Anodonta rubens.
T. A. P. S., (20) vol. v, 1833, p. 93; (27) vol. vi, 1838, p. 141; Obs. Gen. Unio, (21) vol. i, p. 205; (29) vol. ii, p. 141.

A. rubicunda.
P. A. N. S., (176) vol. xii, 1860, p. 92; J. A. N. S., (220) vol. v, 1863, p. 392, pl. xlvi, f. 299; Obs. Gen. Unio, (222) vol. x, p. 28, pl. xlvi, f. 299.

A. rugosus.
T. A. P. S., (20) vol. v, 1833, p. 93; Obs. Gen. Unio, (21) vol. i, p. 205.

A. rotunda.
J. A. N. S., (189) vol. iv, 1860, p. 361; (220) vol. v, 1863, pp. 377, 392, 395; Obs. Gen. Unio, (29) vol. ii, p. 139; (205) vol. viii, p. 43; (222) vol. x, pp. 13, 28, 31; T. A. P. S., (27) vol. vi, 1838, p. 139.

A. rotundovata.
P. A. N. S., (109) vol. viii, 1856, p. 81; J. A. N. S., (243) vol. vi, 1866, p. 155; Obs. Gen. Unio, vol. xi, p. 111.

A. salmonia.
T. A. P. S., (27) vol. vi, 1836, p. 45, pl. xiv, f. 41; 1838, pp. 138, 149; Obs. Gen. Unio, (29) vol. ii, pp. 45, 138, 149, pl. xiv, f. 41.

A. Schröteriana.
P. A. P. S., (93) vol. v, 1852, p. 252; T. A. P. S., (79) vol. x, 1852, p. 292, pl. xxix, f. 55; Obs. Gen. Unio, (83) vol. v, p. 48, pl. xxix, f. 55.

A. Senegalensis.
P. A. N. S., (152) vol. xi, 1859, p. 154; J. A. N. S., (168) vol. iv, 1859, pp. 260, 261, pl. xli, f. 140; Obs. Gen. Unio, (170) vol. vii, pp. 78, 79, pl. xli, f. 140.

A. Shæfferiana.
P. A. P. S., (93) vol. v, 1852, p. 252; T. A. P. S., (79) vol. x, 1852, p. 288, pl. xxvi, f. 50; Obs. Gen. Unio, (83) vol. v, p. 44, pl. xxvi, f. 50.

A. Showalterii.
J. A. N. S., (213) vol. v, 1862, p. 215, pl. xxxiii, f. 284; Obs. Gen. Unio, (215) vol. ix, p. 37, pl. xxxiii, f. 284.

A. siliquosus.
T. A. P. S., vol. vi, 1838, p. 142; Obs. Gen. Unio, (29) vol. ii, p. 142.

A. Simpsoniana.
P. A. N. S., (195) vol. xiii, 1861, p. 56; J. A. N. S., (213) vol. v, 1862, p. 212, pl. xxxii, f. 281; (242) vol. vi, 1866, p. 30; Obs. Gen. Unio, (215) vol. ix, p. 34; (244) vol. xi, p. 34.

A. sinuosa.
T. A. P. S., (20) vol. v, 1833, pp. 79, 94; (27) vol. vi, 1838, pp. 139, 140, 150; Obs. Gen. Unio, (21) vol. i, pp. 191, 206; (29) vol. ii, pp. 139, 140, 150.

A. soleniformis.
T. A. P. S., (27) vol. vi, 1838, pp. 140, 144, 150; (79) vol. x, 1852, p. 293; Obs. Gen. Unio, (29) vol. ii, pp. 140, 144, 150; (83) p. 49.

A. solidula.
J. A. N. S., (220) vol. v, 1863, p. 396; Obs. Gen. Unio, (222) vol. x, p. 32.

A. Spixii.
T. A. P. S., (27) vol. vi, 1838, pp. 139, 150; Obs. Gen. Unio, (29) vol. ii, pp. 139, 150.

Anodonta spuria.
T. A. P. S., (27) vol. vi, 1838, p. 137; Obs. Gen. Unio, (29) vol. ii, p. 137.

A. Strebelii.
J. A. N. S., (258) vol. vi, 1868, p. 322, pl. lii, f. 135; Obs. Gen. Unio, (259) vol. xii, p. 82, pl. lii, f. 135; P. A. N. S., (251) vol. xx, 1868, p. 150.

A. Stewartiana.
T. A. P. S., (20) vol. v, 1832, p. 47, pl. vi, f. 17; (27) vol. vi, 1836, p. 64; 1838, pp. 139, 149; (79) vol. x, 1852, p. 291; J. A. N. S., (159) vol. iv, 1859, p. 231; Obs. Gen. Unio, (21) vol. i, p. 159, pl. vi, f. 7; (29) vol. ii, pp. 64, 139, 149; (83) vol. v, p. 47; (170) vol. vii, p. 49.

A. subcrassa.
P. Zoöl. Soc. Lond., (60) vol. xviii, 1850, p. 198; J. A. N. S., vol. iv, 1859, p. 236, pl. xxxiii, f. 115; Obs. Gen. Unio, (170) vol. vii, p. 54, pl. xxxiii, f. 115.

A. subcylindracea.
T. A. P. S., (27) vol. vi, 1838, pp. 106, 140, 149, pl. xxiv, f. 117; J. A. N. S., (221) vol. v, 1863, p. 449; Obs. Gen. Unio, (29) vol. ii, pp. 106, 140, 149, pl. xxiv, f. 117; (222) vol. x, p. 85.

A. suborbiculata.
T. A. P. S., (27) vol. vi, 1838, pp. 139, 149; (43) vol. viii, 1841, p. 241; Obs. Gen. Unio, (29) vol. ii, pp. 139, 149; (44) vol. iii, p. 79.

A. subvexa.
T. A. P. S., (27) vol. vi, 1838, pp. 139, 149; Obs. Gen. Unio, (29) vol. ii, pp. 139, 149.

A. sulcata.
T. A. P. S., (20) vol. v, 1833, p. 93; (27) vol. vi, 1838, p. 137; Obs. Gen. Unio, (21) vol. i, p. 205; (29) vol. ii, p. 137.

A. Susannæ.
T. A. P. S., (27) vol. vi, 1838, p. 139; Obs. Gen. Unio, (29) vol. ii, p. 139.

A. Tævaii.
T. A. P. S., (27) vol. vi, 1838, p. 140; Obs. Gen. Unio (29) vol. ii, p. 140.

A. Tawaii.
T. A. P. S., (27) vol. vi, 1838, p. 150; Obs. Gen. Unio, (29) vol. ii, p. 150.

A. tenebricosa.
T. A. P. S., (20) vol. v, 1833, pp. 76, 78, pl. xii, f. 36; (27) vol. vi, 1836, pp. 45, 140, 150; J. A. N. S., (220) vol. v, 1863, p. 377; Obs. Gen. Unio, (21) vol. i, pp. 188, 190, pl. xii, f. 36; (29) vol. ii, pp. 45, 140, 150; (222) vol. x, p. 13.

A. tenuis.
T. A. P. S., (27) vol. vi, 1838, p. 136; P. Z. S., Lond., (60) vol. xviii, 1850, p. 198; J. A. N. S., (168) vol. iv, 1859, p. 237, pl. xxxiii, f. 116; Obs. Gen. Unio, (29) vol. ii, p. 136; (170) vol. vii, p. 55, pl. xxxiii, f. 116; P. A. N. S., (250) vol. xx, 1868, p. 146.

A. teres.
T. A. P. S., (27) vol. vi, 1838, p. 138; Obs. Gen. Unio, (29) vol. ii, p. 138.

Anodonta tetragona.

T. A. P. S., (55) vol. x, 1845, p. 82, pl. viii, f. 25; (79) vol. x, 1852, pp. 287, 289; Obs. Gen. Unio, (56) vol. iv, p. 82, pl. viii, f. 25; (83) vol. v, pp. 43, 45; P. A. N. S., (53) vol. iv, 1845, p. 165; (101) vol. vii, 1854. p. 246.

A. Texasensis.

P. A. N. S., (151) vol. xi, 1859, p. 113; J. A. N. S., (189) vol. iv, 1860, p. 366, pl. 63, f. 191; Obs. Gen. Unio, (205) vol. viii, p. 48, pl. 63, f. 191.

A. tortilis.

P. A. P. S., (93) vol. v, 1852, p. 252; T. A. P. S., (79) vol. x, 1852, p. 291, pl. xxvii, f. 54; J. A. N. S., (133) vol. iii, 1857, p. 313; Obs. Gen. Unio, (83) vol. v, p. 47, pl. xxvii, f. 54; (150) vol. vi, p. 33.

A. Trautwiniana.

P. A. P. S., (93) vol. v, 1852, p. 252; T. A. P. S., (79) vol. x, 1852, p. 287, pl. xxvi, f. 48; J. A. N. S., (189) vol. iv, 1860, p. 367; Obs. Gen. Unio, (83) vol. v, p. 43, pl. xxvi, f. 48; (205) vol. viii, p. 49.

A. triangulata.

P. A. N. S., (109) 1856, p. 81; J. A. N. S., (243) vol. vi, 1866, p. 155; Obs. Gen. Unio, (244) vol. xi, p. 111.

A. trigona.

T. A. P. S., (27) vol. vi, 1838, pp. 138, 150; Obs. Gen. Unio, (29) vol. ii, pp. 138, 150.

A. trapezius.

T. A. P. S., (12) vol. iii, 1829, p. 443; (20) vol. v, 1833, p. 93; (27) vol. vi, 1838, pp. 139, 150; (79) vol. lxxix, 1852, p. 287; J. A. N. S., (220) vol. v, 1863, pp. 377, 393, 394, 397; Obs. Gen. Unio, (21) vol. i, pp. 57, 205; (29) vol. ii, pp. 139, 150; (83) vol. v, p. 43; (222) vol. vol. x, pp. 13, 29, 30, 33.

A. Tryonii.

J. A. N. S., (242) vol. vi, 1866, p. 28; Obs. Gen. Unio, (244) vol. xi, p. 32, pl. x, f. 27; P. A. N. S., (206) vol. xiv, p. 169.

A. tuberculata.

T. A. P. S., (27) vol. vi, 1838, p. 136; Obs. Gen. Unio, (29) vol. ii, p. 136.

A. undulata.

T. A. P. S., (9) vol. iii, 1827, p. 262; (12) vol. iii, 1829, p. 425; (20) vol. v, 1833, p. 93; (27) vol. vi, 1836, pp. 51, 52, 54, 55, 56; 1838, pp. 138, 150; (43) vol. viii, p. 225; J. A. N. S., (147) vol. iv, 1858, pp. 46, 50, pl. v, f. 38; (203) vol. v, 1861, p. 107; (213) vol. v, 1862, p. 216; (221) vol. v, 1863, pp. 453, 450; Obs. Gen. Unio, (21) vol. i, pp. 4, 39, 205; (29) vol. ii, pp. 51, 52, 54, 55, 56, 138, 150; (44) vol. iii, p. 63; (150) vol. vi, pp. 46, 50, pl. v, f. 38; (205) vol. viii, p. 111; (215) vol. ix, p. 38; (222) vol. x, pp. 86, 89; P. A. N. S., (118) vol. ix, 1857, p. 18.

A. uniopsis.

T. A. P. S., (20) vol. v, 1833, p. 93; (27) vol. vi. 1838, pp. 138, 150; Obs. Gen Unio, (21) vol. i, p. 205; (29) vol. ii, pp. 138, 150.

Anodonta Uruguayensis.

P. A. N. S., (176) vol. xii, 1860, p. 92; J. A. N. S., (220) vol. v, 1863, p. 393, pl. xlviii, f. 302; Obs. Gen. Unio, (222) vol. x, p. 29, pl. xlviii, f. 302.

A. variabilis.

T. A. P. S., (27) vol. vi, 1838, p. 137; Obs. Gen. Unio, (29) vol. ii, p. 137.

A. ventricosa.

T. A. P. S., (27) vol. vi, 1838, p. 137; Obs. Gen. Unio, (29) vol. ii, p. 137.

A. virens.

P. A. P. S., (93) vol. v, 1852, p. 252; T. A. P. S., (79) vol. x, 1852, p. 290, pl. xxviii, f. 53; Obs. Gen. Unio, (83) vol. v, p. 46, pl. xxviii, f. 53.

A. virgata.

T. A. P. S., (27) vol. vi, 1838, p. 138; Obs. Gen. Unio, (29) vol. ii, p. 138.

A. virgulata.

P. A. N. S., (123) vol. ix, 1857, p. 86; J. A. N. S., (213) vol. v, 1862, p. 213, pl. xxxiii, f. 282; Obs. Gen. Unio, (215) vol. ix, p. 35, pl. xxiii, f. 282.

A. Wahlamatensis.

T. A. P. S., (27) vol. vi, 1836, p. 78, pl. xx, f. 64, 1838, p. 137; J. A. N. S., (221) vol. v, 1863, p. 453; (243) vol. vi, 1866, p. 155; Obs. Gen. Unio, (29) vol. ii, pp. 78, 137, 149, pl. xx, f. 64; (222) vol. x, p. 89; (244) vol. xi, p. 111; P. A. N. S., (109) vol. viii, 1856, p. 81.

A. Wardiana.

T. A. P. S., (27) vol. vi, 1836, p. 46, pl. xiv, f. 42; 1838, pp. 138, 149; (43) vol. viii, 1841, p. 231; Obs. Gen. Unio, (29) vol. ii, pp. 46, 138, 149, pl. xiv, f. 42; (44) vol. iii, p. 69; P. A. N. S., (101) vol. vii, 1854, p. 241.

A. Wheatleyi.

P. A. P. S., (93) vol. v, 1852, p. 252; T. A. P. S., (79) vol. x, 1852, p. 287, pl. xxvi, f. 49; J. A. N. S., (220) vol. v, 1863, pp. 391, 396; Obs. Gen. Unio, (83) vol. v, p. 43, pl. xxvi, f. 49; (222) vol. x, pp. 27, 32.

A. Williamsii.

J. A. N. S., (242) vol. vi, 1866, pp. 27, 29; pl. x, f. 26; Obs. Gen. Unio, (244) vol. xi, pp. 31, 33, pl. x, f. 26; P. A. N. S., (206) vol. xiv, 1862, p. 169.

A. Woodiana.

T. A. P. S., (27) vol. vi, 1838, pp. 137, 149; Obs. Gen. Unio., (29) vol. ii, pp. 137, 149.

A. Wymanii.

P. A. N. S., (176) vol. xii, 1860, p. 91; J. A. N. S., (220) vol. v, 1863, pp. 390, 394; pl. xliv, f. 294; Obs. Gen. Unio., (222) vol. x, pp. 26, 30; pl. xliv, f. 294; P. A. N. S., (179) vol. xii, 1860, p. 97.

A. Youkanensis.

J. A. N. S., (257) vol. vi, 1868, p. 287, pl. xi, f. 99; Obs. Gen. Unio, (259) vol. xii, p. 47, pl. xl, f. 99; P. A. N. S., (247) vol. xix, 1867, p. 81.

Anodontites anatina.

T. A. P. S., (27) vol. vi, 1838, p. 138; Obs. Gen. Unio, (29) vol. ii, p. 138.

Anodontites cygnca.
T. A. P. S., (27) vol. vi, 1838, p. 138; Obs. Gen. Unio, (29) vol. ii, p. 138.

ANOLAX.
(18) Con. Geol., 1833, p. 180.

A. altile.
(18) Con. Geol., 1833, p. 181.

A. giganta.
(18) Con. Geol., 1833, p. 180, pl. vi, f. 193.

A. plicata.
(18) Con. Geol., 1833, p. 181, pl. vi, f. 194.

A. samba.
(18) Con. Geol., 1833, p. 181.

A. subglobosa.
(18) Con. Geol., 1833, p. 181.

ANOMIA.
P. A. N. S., (145) vol. x, 1858, p. 221.

APHRODITE.
T. A. P. S., (20) vol. v, 1834, p. 111; Obs. Gen. Unio, (21) vol. i, p. 223.

A. columba.
T. A. P. S., (20) vol. v, 1834, p. 111, pl. xviii, f. 54; Obs. Gen. Unio., (21) vol. i, p. 223, pl. xviii, f. 54.

ARCA.
(18) Con. Geol., 1833, p. 75; P. A. N. S., (145) vol. x, 1858, p. 221.

A. centenaria.
(18) Con. Geol., 1833, p. 75.

A. duplicata.
(18) Con. Geol., 1833, p. 75.

A. rhomboidella.
(18) Con. Geol., 1833, p. 74, pl. ii, f. 52.

A Sillimaniana.
T. A. P. S., (36) vol. vii, 1840, p. 259, pl. x, f. 16.

A. tortuosa.
J. A. N. S., (133) vol. iii, 1857, p. 320; Obs. Gen. Unio, (150) vol. vi, p. 40; P. A. N. S., (144) vol. x, 1858, p. 179.

Assiminea carinata.
P. A. N. S., (113) vol. viii, 1856, p. 111; J. A. N. S., (243) vol. vi, 1866, p. 119, pl. xxii, f. 13; Obs. Gen. Unio, (244) vol. xi, p. 76, pl. xxii, f. 13.

ASTARTE.
(18) Con. Geol., 1833, pp. 63, 64.

A. minor.
(18) Con. Geol., 1833, p. 63, pl. ii, f. 38.

A. minutissima.
(18) Con. Geol., 1833, p. 64, pl. ii, f. 39.

A. Nicklinii.
(18) Con. Geol., 1833, p. 61, pl. ii, f. 35.

A. parva.
(18) Con. Geol., 1833 pp. 63, 64, pl. ii, f. 37.

A. recurva.
(18) Con. Geol., 1833, p. 61, pl. ii, f. 34.

A. rugatus.
(18) Con. Geol., 1833, p. 64.

A. sulcata.
(18) Con. Geol., 1833, p. 62, pl. ii, f. 36.

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(18) Con. Geol., 1833, p. 87.

A Claibornensis.
(18) Con. Geol., 1833, p. 86, pl. iii, f. 65.

A. media.
(18) Con. Geol., 1833, pp. 86, 87.

Auricula fuscagula.
T. A. P. S., (20) vol. v, 1833, p. 83, pl. xix, f. 76; Obs. Gen. Unio, (21) vol. i, p. 195, pl. xix, f. 76.

A. ringens.
(18) Con. Geol., 1833, p. 202.

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(18) Con. Geol, 1833, p. 212.

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(18) Con. Geol., 1833, p. 211, pl. vi, f. 222.

Barbata plicata.
T. A. P. S., (27) vol. vi, 1838, p. 136; Obs. Gen. Unio, (29) vol. ii, p. 136.

BASISTOMA.
T. A. P. S., (81) vol. x, 1852, p. 295; Obs. Gen. Unio, (83) vol. v, p. 51.

B. Edwardsii.
P. A. P. S., (94) vol. v, 1852, p. 252; T. A. P. S., (81) vol. x, 1852, p. 296, pl. xxx, f. 1; Obs. Gen. Unio, (83) vol. v, p. 52, pl. xxx, f. 1.

Bathygnathus borealis.
P. A. N. S., (106) vol. viii, 1856, p. 78.

BELEMNITES.
P. A. N. S., (145) vol. x, 1858, p. 218.

BIFRONTIA.
P. A. N. S., (182) vol. xii, 1860, p. 186; J. A. N. S., (214) vol. v, 1862, p. 245; Obs. Gen. Unio, (215) vol. ix, p. 67.

BITHINIA.
J. A. N. S., (243) vol. vi, 1866, p. 119; Obs. Gen. Unio, (244) vol. xi, p. 75.

B. faculata.
J. A. N. S., (243) vol. vi, 1866, p. 119; Obs. Gen. Unio, (244) vol. xi, p. 75.

B. globula.
J. A. N. S., (243) vol. vi, 1866, p. 119, pl. xxii, f. 12; Obs. Gen. Unio, (244) vol. xi, p. 75, pl. xxii, f. 12; P. A. N. S., (113) vol. viii, 1856, p. 110.

B. Siamensis.
P. A. N. S., (113) vol. viii, 1856, p. 110; J. A. N. S., (243) vol. vi, 1866, pp. 118, 119, pl. xxii, f. 11; Obs. Gen. Unio, (244) vol. xi, pp. 75, 76, pl. xxii, f. 11.

BUCCINUM.
(18) Con. Geol., 1833, p. 164; P. A. N. S., (145) vol. x, 1858, p. 221.

B. Sowerbii.
(18) Con. Geol., 1833, p. 164, pl. v, f. 169; T. A. P. S., (20) vol. v, p. 85.

B. striatum.
T. A. P. S., (20) vol. v, 1833, p. 85; Obs. Gen. Unio, (21) vol. i, p. 197.

Bulimus bicoloratus.
P. A. P. S., (31) vol. i, 1840, p. 173; T. A. P. S., (38) vol. vii, 1841, p. 459, pl. xi, f. 8.

B. carinatus.
P. A. P. S., (31) vol. i, 1840, p. 174; T. A. P. S., (38) vol. vii, 1841, p. 458, pl. xi, f. 7.

B. Colombianus.
T. A. P. S., (27) vol. vi, 1836, p. 66, pl. xxiii, f. 110; Obs. Gen. Unio, (29) vol. ii, p. 66, pl. xxiii, f. 110.

Bulimus corneus.
T. A. P. S., (27) vol. vi, 1836, p. 66, pl. xxiii, f. 111; Obs. Gen. Unio, (29) vol. ii, p. 66, pl. xxiii, f. 111.

B. decollatus.
J. A. N. S., (214) vol. v, 1862, p. 233; Obs. Gen. Unio, (215) vol. ix, 1862, p. 255.

B. decoratus.
T. A. P. S., (27) vol. vi, 1836, p. 86, pl. xxiii, f. 108; Obs. Gen. Unio, (29) vol. ii, p. 86, pl. xxiii, f. 108.

B. Gibbonius.
T. A. P. S., (27) vol. vi, 1836, p. 85, pl. xxiii, f. 99; Obs. Gen. Unio, (29) vol. ii, p. 85, pl. xxiii, f. 99.

B. glandiformis.
T. A. P. S., (27) vol. vi, 1836, p. 83, pl. xxiii, f. 92; Obs. Gen. Unio, (29) vol. ii, p. 83, pl. xxiii, f. 92.

B. gracilis.
P. A. P. S., (31) vol. i, 1840, p. 173; T. A. P. S., (27) vol. vi, 1836, p. 85, pl. xxiii, f. 102; (38) vol. vi, 1841, pp. 456, 458, pl. xi, f. 6; Obs. Gen. Unio, (29) vol. ii, p. 85, pl. xxiii, f. 102.

B. hæmastomas.
T. A. P. S., (38) vol. vii, 1841, p. 457.

B. Jayanus.
P. A. P. S., (39) vol. ii, 1841, p. 31; T. A. P. S., (51) vol. ix, 1841, p. 2; Obs. Gen. Unio, (56) vol. iv, p. 2.

B. lacteus.
T. A. P. S., (27) vol. vi, 1836, pp. 65, 67; Obs. Gen. Unio, (29) vol. ii, p. 65, pl. xxiii, f. 100.

B. Liberianus.
P. A. P. S., (31) vol. i, 1840, p. 174; T. A. P. S., (38) vol. vii, 1841, p. 457, pl. xi, f. 4.

B. maculatus.
T. A. P. S., (27) vol. vi, 1836, pp. 84, 86, pl. xxiii, f. 112; Obs. Gen. Unio, (29) vol. ii, p. 86, pl. xxiii, f. 112.

B. octoneus.
T. A. P. S., (51) vol. ix, 1841, p. 3; Obs. Gen. Unio, (56) vol. iv, p. 3.

B. parvus.
T. A. P. S., (27) vol. vi, 1836, p. 84, pl. xxiii, f. 96; Obs. Gen. Unio, (29) vol. ii, p. 84, pl. xxiii, f. 96.

B. Pealianus.
T. A. P. S., (27) vol. vi, 1836, p. 65, pl. xxiii, f. 105; Obs. Gen. Unio, (29) vol. ii, p. 65, pl. xxiii, f. 105.

B. radiatus.
T. A. P. S., (38) vol. vii, 1841, p. 457.

B. subglobusus.
P. A. N. S., (31) vol. i, 1840, p. 173; T. A. P. S., (38) vol. vii, 1841, p. 455, pl. xi, f. 1.

B. terebellatus.
(18) Con. Geol., 1833, p. 207.

B. virgineus.
P. A. P. S., (31) vol. i, 1840, p. 174; T. A. P. S., (38) vol. vii, 1841, p. 456, pl. xi, f. 3.

B. virgo.
T. A. P. S., (27) vol. vi, 1836, p. 84, pl. xxiii, f. 97; Obs. Gen. Unio, (29) vol. ii, p. 84, pl. xxiii, f. 97.

Bulimus virido-striatus.
P. A. P. S., (31) vol. i, 1840, p. 174; T. A. P. S., (38) vol. vii, 1841, p. 455, pl. xi, f. 2.

B. Woodianus.
P. A. P. S., (31) vol. i, 1840, p. 173; T. A. P. S., (38) vol. vii, 1841, p. 457, pl. xi, f. 5.

BULLA.
(18) Con. Geol., 1833, p. 99.

B. constricta.
(18) Con. Geol., 1833, p. 98.

B. Dekayi.
(18) Con. Geol., 1833, p. 200, pl. vi, f. 215.

B. St. Hillairii.
(18) Con. Geol., 1833, pp. 98, 201, pl. iv, f. 78.

Byssomia petricoloides.
(18) Con. Geol., 1833, p. 48, pl. i, f. 16.

Byssanodonta Paranensis.
P. A. N. S., (115) vol. viii, 1856, p. 214.

CANCELLARIA.
(18) Con. Geol., 1833, p. 142.

C. babylonica.
(18) Con. Geol., 1833, p. 138, pl. v, f. 134.

C. costata.
(18) Con. Geol., 1833, p. 141, pl. v, f. 140.

C. elevata.
(18) Con. Geol., 1833, p. 141, pl. v, f. 139.

C. multiplicata.
(18) Con. Geol., 1833, p. 139, pl. v, f. 135.

C. parva.
(18) Con. Geol., 1833, p. 142, pl. v, f. 141.

C. plicata.
(18) Con. Geol., 1833, pp. 139, 140, pl. v, f. 136.

C. sculptura.
(18) Con. Geol., 1833, p. 140, pl. v, f. 137.

C. tessellata.
(18) Con. Geol., 1833, p. 140, pl. v, f. 138.

CARDITA.
P. A. P. S., (145) vol. x, 1858, p. 221.

C. planicosta.
(18) Con. Geol., 1833, p. 19.

Cardium cardissa.
T. A. P. S., (27) vol. vi, 1836, p. 72; Obs. Gen. Unio, (29) vol. ii, p. 72.

C. depressum.
T. A. P. S., (36) vol. vii, 1840, p. 259, pl. x, f. 20.

C. globosum.
T. A. P. S., (36) vol. vii, 1840, p. 259, pl. x, f. 20.

CAROCOLLA.
T. A. P. S., (51) vol. ix, 1841, p. 1; (82) vol. x, 1852, p. 304; Obs. Gen. Unio, (56) vol. iv, p. 1; (83) vol. v, p. 60.

C. bicolor.
T. A. P. S., (38) vol. vii, 1841, p. 461.

C. bifasciata.
P. A. P. S., (31) vol. i, 1840, p. 174; T. A. P. S., (38) vol. xii, 1841, p. 465, pl. xii, f. 18.

C. Cumberlandiana.
P. A. P. S., (35) vol. i, 1840, p. 289; T. A. P. S., (43) vol. viii, 1840, p. 229, pl. vi, f. 61; Obs. Gen. Unio, (44) vol. iii, p. 67, pl. vi, f. 61.

C. Edgariana.
P. A. P. S., (39) vol. ii, 1841, p. 31; T. A. P. S., (51) vol. ix, 1841, p. 2; (82) vol. x, 1852, p. 304; Obs. Gen. Unio, (56) vol. iv, p. 2; (83) vol. v, p. 60.

Carocolla helicoides.
T. A. P. S., (15) vol. iv, 1830, p. 103, pl. xv, f. 34, a. b. c.; Obs. Gen. Unio, (21) vol. i, p. 113, pl. xv, f. 34, a. b. c.

C. Hydiana.
T. A. P. S., (27) vol. vi, 1837, p. 98, pl. xxiii, f. 73; Obs. Gen. Unio, (29) vol. ii, p. 98, pl. xxiii, f. 73.

C. labyrinthus.
T. A. P. S., (27) vol. vi, 1837, p. 98; Obs. Gen. Unio, (29) vol. ii, p. 98.

C. spinosa.
T. A. P. S., (15) vol. iv, 1830, p. 104, pl. xv, f. 35, a. b. c.; (27) vol. vi, 1836, p. 69; (51) vol. ix, 1841, p. 2; (82) vol. x, 1852, p. 304; Obs. Gen. Unio, (21) vol. i, p. 114, pl. xv, f. 35, a. b. c.; (29) vol. ii, p. 69; (56) vol. iv, p. 2; (83) vol. v, p. 60.

CASTALIA.
T. A. P. S., (12) vol. iii, 1829, pp. 442, 443; (15) vol. iv, 1831, p. 107; (27) vol. vi, 1838, p. 109; Obs. Gen. Unio, (21) vol. i, pp. 56, 57; (15) p. 117; (29) vol. ii, p. 109.

C. ambigua.
T. A. P. S., (12) vol. iii, 1829, p. 443; (20) vol. v, 1833, p. 92; (27) vol. vi, 1838, p. 122; J. A. N. S., (220) vol. v, 1863, p. 377; Obs. Gen. Unio, (21) vol. i, p. 57; (20) p. 204; (29) vol. ii, p. 122; (222) vol. x, p. 13.

C. inflata.
T. A. P. S., (27) vol. vi, 1838, p. 122; Obs. Gen. Unio, (29) vol. ii, p. 122.

C. quadrilatera.
T. A. P. S., (27) vol. vi, 1838, p. 122; Obs. Gen. Unio, (29) vol. ii, p. 122.

CATILLUS.
(18) Con. Geol., 1833, p. 73.

Centemodon sulcatus.
P. A. N. S., (106) vol. viii, 1856, p. 78; (128) vol. ix, 1857, p. 149.

CERIPHASIA.
J. A. N. S., (214) vol. v, 1862, p. 269; Obs. Gen. Unio, (215) vol. ix, p. 91.

C. canaliculata.
J. A. N. S., (214) vol. v, 1862, p. 269; Obs. Gen. Unio, (215) vol. ix, p. 91.

C. sulcata.
J. A. N. S., (214) vol. v, 1862, p. 269; Obs. Gen. Unio, (215) vol. ix, p. 91.

CERITHIUM.
(18) Con. Geol., 1833, p. 132.

C. striatum.
(18) Con. Geol., 1833, p. 131, pl. iv, f. 122.

Chama plumbea.
J. A. N. S., (213) vol. v, 1862, p. 206; Obs. Gen. Unio, (215) vol. ix, p. 28.

C. tortuosa.
T. A. P. S., (36) vol. vii, 1840, p. 259, pl. x, f. 18.

Chelichnus Wymanianus.
P. A. N. S., (106) vol. viii, 1856, p. 78.

CHILINA.
J. A. N. S., (214) vol. v, 1862, p. 257; Obs. Gen. Unio, (215) vol. ix, p. 79.

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J. A. N. S., (133) vol. iii, 1857, p. 318; Obs. Gen. Unio, (150) vol. vi, p. 38.

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P. A. N. S., (106) vol. viii, 1856, p. 78; (128) vol. ix, 1857, p. 149; (138) vol. x, 1858, p. 91.

Cochlicopa rosea.
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T. A. P. S., (20) vol. v, 1833, p. 78; (27) vol. ii, p. 139; Obs. Gen. Unio, (21) vol. i, p. 190; (29) vol. ii, p. 139.

Conus Claibornensis.
(18) Con. Geol., 1833, p. 186.

C. latus.
T. A. P. S., (36) vol. vii, 1840, p. 259, pl. x, f. 19.

CORBULA.
(18) Con. Geol., 1833, p. 47; P. A. N. S., (145) vol. x, 1858, p. 221.

C. compressa.
(18) Con. Geol., 1833, p. 47, pl. i, f. 15.

C. elegans.
(18) Con. Geol., 1833, p. 46.

C. gibbosa.
(18) Con. Geol., 1833, p. 46, pl. i, f. 14.

C. Murchisonii.
(18) Con. Geol., 1833, pp. 46, 47, pl. i, f. 13.

C. revoluta.
(18) Con. Geol., 1833, p. 46.

CRASSINA.
(18) Con. Geol., 1833, p. 63.

Crassatella alta.
(18) Con. Geol., 1833, p. 23.

CREPIDULA.
(18) Con. Geol., 1833, p. 98.

C. cornu-arietes.
(18) Con. Geol., 1833, p. 97, pl. iii, f. 77.

C. costata.
(18) Con. Geol., 1833, p. 97.

CRISTARIA.
T. A. P. S., (12) vol. iii, 1829, p. 443; Obs. Gen. Unio, (21) vol. i, p. 57.

C. tuberculata.
T. A. P. S., (12) vol. iii, 1829, p. 447; (27) vol. vi, 1838, p. 136; Obs. Gen. Unio, (21) vol. i, p. 61; (29) vol. ii, p. 136.

Cucullea dubia.
T. A. P. S., (36) vol. vii, 1840, p. 259, pl. x, f. 17.

C. gigantea.
(18) Con. Geol., 1833, p. 19.

CYCLAS.
T. A. P. S., (20) vol. v, 1832, p. 25; Obs. Gen. Unio, (21) vol. i, p. 137.

Cyclostoma Cincinnatiensis.
P. A. P. S., (35) vol. 1, 1840, p. 289; T. A. P. S., (43) vol. viii, 1840, p. 229, pl. vi, f. 62; Obs. Gen. Unio, (44) vol. iii, p. 67, pl. vi, f. 62.

C. Jamaicensis.
T. A. P. S., (20) vol. v, 1833, p. 34; Obs. Gen, Unio, (21) vol. i, p. 196.

C. maculata.
T. A. P. S., vol. vi, 1836, p. 68, pl. xxiii, f. 87; Obs. Gen. Unio, (29) vol. ii, p. 68, pl. xxiii, f. 87.

C. Popayana.
T. A. P. S., (27) vol. vi, 1836, p. 94, pl. xxiii, f. 76; Obs. Gen. Unio, (29) vol. ii, p. 94, pl. xxiii, f. 76.

Cyclostoma striata.
T. A. P. S., (20) vol. v, 1833, p. 84, pl. xix, f. 77; (27) vol. vi, 1836. p. 94; Obs. Gen. Unio, (21) vol. i, p. 196, pl. xix, f. 77; (29) vol. ii, p. 94.

C. unicolor.
J. A. N. S., (243) vol. vi, 1866, p. 116; Obs. Gen. Unio, (244) vol. xi, p. 73.

C. Woodiana.
P. A. P. S., (31) vol. i, 1840, p. 174; T. A. P. S., (38) vol. vii, 1841, p. 465, pl. xii, f. 19.

CYRENA.
T. A. P. S., (20) vol. v, 1834, p. 111; Obs. Gen. Unio, (21) vol. i, p. 223; (150) vol. vi, p. 38; J. A. N. S., (133) vol. iii, 1857, p. 318.

C. Jayensis.
T. A. P. S., (20) vol. v, 1834, p. 108, pl. xvii, f. 52; Obs. Gen. Unio, (21) vol. i, p. 220, pl. xvii, f. 52.

C. papua.
T. A. P. S., (20) vol. v, 1834, pp. 109, 110; Obs. Gen. Unio, (21) vol. i, pp. 221, 222.

C. rotundata.
T. A. P. S., (20) vol. v, 1834, pp. 107, 108, 110, pl. xvii, f. 51; Obs. Gen Unio, (21) vol. i, pp. 219, 220, 221, pl. xvii, f. 51.

C. turgida.
T. A. P. S., (20) vol. v, 1834, p. 109, pl. xviii, f. 53; Obs. Gen. Unio, (21) vol. i, p. 221, pl. xviii, f. 53.

C. variegata.
J. A. N. S., (220) vol. v, 1863, p. 377; Obs. Gen. Unio, (222) vol. x, p. 13.

C. Woodiana.
T. A. P. S., (20) vol. v, 1834, pp. 109, 110, pl. xviii, f. 55; Obs. Gen. Unio, (21) vol. i, p. 222, pl. xviii, f. 55.

C. Zeylanica.
T. A. P. S., (20) vol. v, 1834, pp. 108, 109; Obs. Gen. Unio, (21) vol. i, pp. 220, 221.

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(18) Con. Geol., 1833, pp. 60, 68.

C. comis.
(18) Con. Geol., 1833, p. 66, pl. ii, f. 41.

C. convexa.
(18) Con. Geol., 1833, p. 21.

C. Dione.
T. A. P. S., (27) vol. vi, 1836, p. 58; Obs. Gen. Unio, (29) vol. ii, p. 58.

C. globosa.
(18) Con. Geol., 1833, pp. 65, 66, pl. ii, f. 40.

C. Hydii.
(18) Con. Geol., 1833, p. 66, pl. ii, f. 42.

C. minima.
(18) Con. Geol., 1833, p. 68, pl. ii, f. 45.

C. subcrassa.
(18) Con. Geol., 1833, p. 67, pl. ii, f. 43.

C. trigonata.
(18) Con. Geol., 1833, pp. 67, 68, pl. ii, f. 44.

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T. A. P. S., (27) vol. vi, 1838, p. 134; Obs. Gen. Unio, (29) vol. ii, p. 134.

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(18) Con. Geol., 1833, p. 34, pl. i, f. 2.

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(18) Con. Geol., 1833, p. 36.

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(18) Con. Geol., 1833, p. 35.

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(18) Con. Geol., 1833, p. 118.

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(18) Con. Geol., 1833, p. 117, pl. iv, f. 104.

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(18) Con. Geol., 1833, p. 12.

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D. vitrea.
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D. rhombeum.
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(18) Con. Geol., 1833, p. 49.

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(18) Con. Geol., 1833, pp. 52, 53, pl. i, f. 21.

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(18) Con. Geol., 1833, pp. 50, 51, pl. i, f. 18.

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(18) Con. Geol., 1833, pp. 50, 55, pl. i, f. 26.

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(18) Con. Geol., 1833, p. 51, pl. i, f. 19.

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(18) Con. Geol., 1833, p. 153.
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(18) Con. Geol., 1833, p. 151.
F. Fittonii.
(18) Con. Geol., 1833, p. 150, pl. v, f. 156.
F. fluvialis.
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F. fluviatilis.
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F. fusiformis.
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(18) Con. Geol., 1833, p. 19.
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(18) Con. Geol., 1833, p. 147, pl. v, f. 150.
F. minax.
(18) Con. Geol., 1833, p. 153.
F. minor.
(18) Con. Geol., 1833, pp. 151, 152, pl. v, f. 158.
F. minutus.
(18) Con. Geol., 1833, p. 215.
F. Mortonii.
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F. nanus.
(18) Con. Geol., 1833, p. 150, pl. v, f. 155.
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(18) Con. Geol., 1833, p. 148, pl. v, f. 152.
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(18) Con. Geol., 1833, p. 151, pl. v, f. 157.
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(18) Con. Geol., 1833, p. 144, pl. v, f. 144.
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(18) Con. Geol., 1833, p. 152, pl. v, f. 159.

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(18) Con. Geol., 1833, p. 146, pl. v, f. 148.

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J. A. N. S., (214) vol. v, 1862, pp. 217, 218; (243) vol. vi, 1866, p. 150; Obs. Gen. Unio, (215) vol. ix, pp. 39, 40; (244) vol. xi, p. 106.

G. Abbevillensis.
J. A. N. S., (214) vol. v, 1862, p. 323, pl. xxxviii, f. 174; Obs. Gen. Unio, (215) vol. ix, p. 145, pl. xxxviii, f. 174.

G. abrupta.
J. A. N. S., (214) vol. v, 1862, p. 323; Obs. Gen. Unio, (215) vol. ix, p. 145.

G. acuta.
J. A. N. S., (214) vol. v, 1862, p. 321; Obs. Gen. Unio, (215) vol. ix, p. 143.

G. adjusta.
J. A. N. S., (243) vol. vi, 1866, p. 137; Obs. Gen. Unio, (244) vol. x, p. 93.

G. æqua.
J. A. N. S., (214) vol. v, 1862, pp. 223, 240, pl. xxxiv, f. 41; Obs. Gen. Unio, (215) vol. ix, pp. 45, 62, pl. xxxiv, f. 41.

G. Alabamensis.
J. A. N. S., (214) vol. v, 1862, pp. 232, 296, pl. xxxiv, f. 26; (243) vol. vi, 1866, p. 130; Obs. Gen. Unio, (215) vol. ix, pp. 54, 118, pl. xxxiv, f. 26; (244) vol. xi, p. 86.

G. Albanyensis.
J. A. N. S., (243) vol. vi, 1866, pp. 140, 141, pl. xxiii, f. 49; Obs. Gen. Unio, (244) vol. xi, pp. 96, 97, pl. xxiii, f. 49.

G. amœna.
J. A. N. S., (214) vol. v, 1862, p. 323, pl. xxxviii, f. 175; Obs. Gen. Unio, (215) vol. ix, p. 145, pl. xxxviii, f. 175.

G. Anthonyi.
J. A. N. S., (214) vol. v, 1862, p. 303, pl. xxxvii, f. 140; Obs. Gen. Unio, (215) vol. ix, p. 125, pl. xxxvii, f. 140.

G. arata.
J. A. N. S., (258) vol. vi, 1868, p. 329, pl. liv, f. 4; Obs. Gen. Unio, (259) vol. xii, p. 89, pl. liv, f. 4.

G. aterina.
J. A. N. S., (243) vol. vi, 1866, p. 136, pl. xxiii, f. 42; Obs. Gen. Unio, (244) vol. xi, p. 92, pl. xxiii, f. 42.

G. athleta.
J. A. N. S., (214) vol. v, 1862, p. 316; Obs. Gen. Unio, (215) vol. ix, p. 138.

G. auricoma.
J. A. N. S., (214) vol. v, 1862, p. 308, pl. xxxvii, f. 148; Obs. Gen. Unio, (215) vol. ix, p. 130, pl. xxxvii, f. 148.

G. auriculæformis.
J. A. N. S., (214) vol. v, 1862, pp. 242, 312; Obs. Gen. Unio, (215) vol. ix, pp. 64, 134.

G. baculoides.
J. A. N. S., (274) vol. viii, 1874, p. 62; Obs. Gen. Unio, (275) vol. xiii, p. 66, pl. xxi, f. 18.

G. Bairdiana.
J. A. N. S., (214) vol. v, 1862, p. 317, pl. xxxvii, f. 164; Obs. Gen. Unio, (215) vol. ix, p. 139, pl. xxxvii, f. 164.

Goniobasis Barrattii.
J. A. N. S., (214) vol. v, 1862, p. 335, pl. xxxviii, f. 196; Obs. Gen. Unio, (215) vol. ix, p. 157, pl. xxxviii, f. 196.

G. basalis.
J. A. N. S., (214) vol. v, 1862, pp. 233, 313, 329; (243) vol. vi, 1866, p. 150; Obs. Gen. Unio, (215) vol. ix, pp. 55, 135, 151; (244) vol. xi, p. 55.

G. bellula.
J. A. N. S., (214) vol. v, 1862, pp. 221, 222, 228, 237, 344, pl. xxxiv, f. 35; Obs. Gen. Unio, (215) vol. ix, pp. 43, 44, 50, 59, 166, pl. xxxiv, f. 35.

G. bullula.
J. A. N. S., (214) vol. v, 1862, pp. 221, 222, pl. xxxiv, f. 5; Obs. Gen. Unio, (215) vol. ix, pp. 43, 44, pl. xxxiv, f. 5.

G. Bentoniensis.
J. A. N. S., (214) vol. v, 1862, p. 336, pl. xxxviii, f. 198; Obs. Gen. Unio, (215) vol. ix, p. 158, pl. xxxviii, f. 198.

G. bicincta.
J. A. N. S., (214) vol. v, 1862, p. 244; Obs. Gen. Unio, (215) vol. ix, p. 66.

G. bifasciata.
J. A. N. S., (258) vol. vi, 1868, p. 331, pl. liv, f. 7; Obs. Gen. Unio, (259) vol. xii, p. 91, pl. liv, f. 7.

G. Binncyana.
J. A. N. S., (214) vol. v, 1862, p. 310, pl. xxxvii, f. 152; Obs. Gen. Unio., (215) vol. ix, p. 132, pl. xxxvii, f. 152.

G. blanda.
J. A. N. S., (214) vol. v, 1862, p. 242, pl. xxxv, f. 44, (243) vol. vi, 1866, p. 137; Obs. Gen. Unio, (215) vol. ix, pp. 64, 93, pl. xxxv, f. 44.

G. Boykiniana.
J. A. N. S., (214) vol. v, 1862, pp. 336, 340; (243) vol. vi, 1866, pp. 140, 141; Obs. Gen. Unio, (215) vol. ix, pp. 158, 162; (244) vol. xi, pp. 96, 97.

G. brevis.
J. A. N. S., (214) vol. v, 1862, p. 339; Obs. Gen. Unio, (215) vol. ix, p. 161.

G. Bridgesiana.
J. A. N. S., (214) vol. v, 1862, p. 305, pl. xxxvii, f. 142; Obs. Gen. Unio, (215) vol. ix, p. 127, pl. xxxvii, f. 142.

G. Brumbyi.
J. A. N. S., (214) vol. v, 1862, p. 296, pl. xxxvii, f. 127; Obs. Gen. Unio, (215) vol. ix, p. 118, pl. xxxvii, f. 127.

G. cadus.
J. A. N. S., (214) vol. v, 1862, p. 345, pl. xxxviii, f. 211; Obs. Gen. Unio, (215) vol. ix, p. 167, pl. xxxviii, f. 211.

G. Cahawbensis.
J. A. N. S., (214) vol. v, 1862, p. 223, pl. xxxiv, f. 8; Obs. Gen. Unio, (215) vol. ix, p. 45, pl. xxxiv, f. 8.

G. caliginosa.
J. A. N. S., (214) vol. v, 1862, p. 343; Obs. Gen. Unio, (215) vol. ix, p. 165.

G. calculoides.
J. A. N. S., (214) vol. v, 1862, p. 238, pl. xxxiv, f. 38; Obs. Gen. Unio, (215) vol. ix, p. 60, pl. xxxiv, f. 38.

Goniobasis Canbyi.
J. A. N. S., (214) vol. v, 1862, pp, 340, 341, 342, pl. xxxviii, f. 204; Obs. Gen. Unio, (215) vol. ix, pp. 162, 163, 164, pl. xxxviii, f. 204.

G. capillaris.
J. A. N. S., (214) vol. v, 1862, pp. 236, 244, pl. xxxiv, f. 34; Obs. Gen. Unio, (215) vol. ix, pp. 58, 66, pl. xxxiv, f. 34.

G. carneola.
J. A. N. S., (214) vol. v, 1862, p. 308; Obs. Gen. Unio, (215) vol. ix, p. 130.

G castanea.
J. A. N. S., (214) vol. v, 1862, pp. 299, 323; Obs. Gen. Unio, (215) vol. ix, pp. 121, 145.

G. catenaria.
J. A. N. S., (214) vol. v, 1862, p. 343; Obs. Gen. Unio, (215) vol. ix, p. 165.

G. cerea.
J. A. N. S., (214) vol. v, 1862, pp. 321, 322, pl. xxxviii, f. 171; Obs. Gen. Unio, (215) vol. ix, pp. 143, 144, pl. xxxviii, f. 171.

G. Christyi.
J. A. N. S., (214) vol. v, 1862, p. 328, pl. xxxviii, f. 185; (243) vol. vi, 1866, p. 137; Obs. Gen. Unio, (215) vol. ix, p. 150, pl. xxxviii, f. 185; (244) vol. xi, p. 93.

G. cinerea.
J. A. N. S., (214) vol. v, 1862, p. 306; Obs. Gen. Unio, (215) vol. ix, p. 128.

G. cinerella.
J. A. N. S., (214) vol. v, 1862, p. 328, pl. xxxviii, f. 184; Obs. Gen. Unio, (215) vol. ix, p. 150, pl. xxxviii, f. 184.

G. clathrata.
J. A. N. S., (258) vol. vi, 1868, p. 331, pl. liv, f. 8; Obs. Gen. Unio, (259) vol. xii, p. 91, pl. liv, f. 8.

G. clausa.
J. A. N. S., (214) vol. v, 1862, pp. 228, 231, 232, pl. xxxiv, f. 25; Obs. Gen. Unio, (215) vol. ix, pp. 50, 53, 54, pl. xxxiv, f. 25.

G. clavula.
J. A. N. S., (258) vol. vi, 1868, p. 335, pl. liv, f. 15; Obs. Gen. Unio, (259) vol. xii, p. 95, pl. liv, f. 15.

G. cochliaris.
J. A. N. S., (258) vol. vi, 1868, p. 336, pl. liv, f. 16; Obs. Gen. Unio, (259) vol. xii, p. 96, pl. liv, f. 16.

G. cognata.
J. A. N. S., (243) vol. vi, 1866, p. 135; Obs. Gen. Unio, (244) vol. xi, p. 91.

G. columella.
J. A. N. S., (214) vol. v, 1862, p. 317; Obs. Gen. Unio, (215) vol. ix, p. 139.

G. concinna.
J. A. N. S., (243) vol. vi, 1866, p. 138; Obs. Gen. Unio, (244) vol. xi, p. 94.

G. Connesaugaensis.
J. A. N. S., (258) vol. vi. 1868, p. 333, pl. liv, f. 11; Obs. Gen. Unio, (259) vol. xii, p. 93, pl. liv, f. 11.

G. continens.
J. A. N. S., (214) vol. v, 1862, p. 321, pl. xxxviii, f. 170; Obs. Gen. Unio, (215) vol. ix, p. 143, pl. xxxviii, f. 170.

Goniobasis contigua.
J. A. N. S., (258) vol. vi, 1868, p. 334, pl. liv, f. 12; Obs. Gen. Unio, (259) vol. xii, p. 94, pl. liv f. 12.

G. Coosaensis.
J. A. N. S., (214) vol. v, 1862, pp. 234, 335, 338, 343, pl. xxxiv, f. 30; Obs. Gen. Unio, (215) vol. ix, pp. 56, 57, 160, 165, pl. xxxiv, f. 30.

G. copiosa.
J. A. N. S., (214) vol. v, 1862, p. 239, pl. xxxiv, f. 39; Obs. Gen. Unio, (215) vol. ix, p. 61, pl. xxxiv, f. 39.

G. corneola.
J. A. N. S., (214) vol. v, 1862, p. 243; Obs. Gen. Unio, (215) vol. ix, p. 65.

G. costulata.
J. A. N. S., (214) vol. v, 1862, pp. 315, 320, 321; Obs. Gen. Unio, (215) vol. ix, pp. 137, 142, 143.

G. Couperii.
J. A. N. S., (214) vol. v, 1862, pp. 341, 342, pl. xxxviii, f. 205; Obs. Gen. Unio, (215) vol. ix, pp. 163, 164, pl xxxviii, f. 205.

G. crebristriata.
J. A. N. S. (214) vol. v, 1862, pp. 236, 244; Obs. Gen. Unio, (215) vol. ix, pp. 56, 58.

G. crenatella.
J. A. N. S, (214) vol v, 1862, p. 268, pl. xxxv, f. 79; Obs. Gen. Unio, (215) vol. ix, p. 90, pl. xxxv, f. 79; (244) vol. ix, Errata.

G. crenatula.
Obs. Gen. Unio, (244) vol. ix, Errata.

G. crepera.
J. A. N. S., (214) vol. v, 1862, pp. 222, 240, pl. xxxiv, f. 42; Obs. Gen. Unio, (215) vol. ix, pp. 44, 62, pl. xxxiv, f. 42.

G. crispa.
J. A. N. S., (214) vol. v, 1862, pp. 326, 327, pl. xxxviii, f. 180; Obs. Gen. Unio, (215) vol. ix, pp. 148, 149, pl. xxxviii, f. 180.

G. cruda.
J. A. N. S., (214) vol. v, 1862, p. 332, pl. xxxviii, f. 190; Obs. Gen. Unio, (215) vol. ix, p. 154, pl. xxxviii, f. 190.

G. culta.
J. A. N. S., (214) vol. v, 1862, pp. 237, 239, pl. xxxiv, f. 36; Obs. Gen. Unio, (215) vol. ix, pp. 59, 61, pl. xxxiv, f. 36.

G. Cumberlandensis.
J. A. N. S., (243) vol. vi, 1866, p. 132, pl. xxiii, f. 35; Obs. Gen. Unio, (244) vol. ix, p. 88, pl. xxiii, f. 35.

G. Decampii.
J. A. N. S., (243) vol. vi, 1866, p. 138, pl. xxiii, f. 45; Obs. Gen. Unio, (244) vol. xi, p. 94, pl. xxviii, f. 45.

G. decora.
J. A. N. S., (214) vol. v, 1862, p. 315; Obs. Gen. Unio, (215) vol. ix, p. 137.

G. depygis.
J. A. N. S., (243) vol. vi, 1866, pp. 133, 134; Obs. Gen. Unio, (244) vol. xi, pp. 89, 90.

G. Deshaysiana.
J. A. N. S., (214) vol. v, 1862, pp. 313, 314, 315, 316, 317, 318, 323, 324, 345; Obs. Gen. Unio, (215) vol. ix, pp. 135, 136, 137, 138, 139, 140. 145, 146, 167.

Goniobasis difficilis.
J. A. N. S., (214) vol. v, 1862, p. 317, pl. xxxvii, f. 163; Obs. Gen. Unio, (215) vol. ix, p. 139, pl. xxxvii, f. 163.

G. Doolyensis.
J. A. N. S., (214) vol. v, 1862, pp. 315, 322, pl. xxxvii, f. 159; Obs. Gen. Unio, (215) vol. ix, pp. 137, 144, pl. xxxvii, f. 159.

G. Downieana.
J. A. N. S., (214) vol. v, 1862, p. 341, pl. xxxviii, f. 206; Obs. Gen. Unio, (215) vol. ix, p. 163, pl. xxxviii, f. 206.

G. Dratonii.
J. A. N. S., (214) vol. v, 1862, pp. 300, 318, pl. xxxvii, f. 134; Obs. Gen. Unio, (215) vol. ix, pp. 122, 140, pl. xxxvii, f. 134.

G. dubiosa.
J. A. N. S., (214) vol. v, 1862, pp. 277, 299; Obs. Gen. Unio, (215) vol. ix, pp. 99, 121.

G. Duttonii.
J. A. N. S., (214) vol. v, 1862, p. 314, pl. xxxvii, f. 158; Obs. Gen. Unio, (215) vol. ix, p. 136, pl. xxxvii, f. 158.

G. ebenum.
J. A. N. S., (214) vol. v, 1862, p. 225; Obs. Gen. Unio, (215) vol. ix, p. 47.

G. Edgariana.
J. A. N. S., (214) vol. v, 1862, p. 321; Obs. Gen. Unio, (215) vol. ix, pp. 140, 143.

G. elata.
J. A. N. S., (243) vol. vi, 1866, p. 131; Obs. Gen. Unio, (244) vol. xi, p. 87.

G. Elliottii.
J. A. N. S., (214) vol. v, 1862, p. 338, pl. xxxviii, f. 201; Obs. Gen. Unio, (215) vol. ix, p. 160, pl. xxxviii, f. 201.

G. ellipsoides.
J. A. N. S., (214) vol. v, 1862, p. 234, pl. xxxiv, f. 31; Obs. Gen. Unio, (215) vol. ix, p. 56, pl. xxxiv, f. 31.

G. elliptica.
J. A. N. S., (214) vol. v, 1862, pp. 225, 312, pl. xxxiv, f. 13; Obs. Gen. Unio, (215) vol. ix, pp. 47, 134, pl. xxxiv, f. 13.

G. Emeryensis.
J. A. N. S., (243) vol. vi, 1866, p. 137, pl. xxiii, f. 43; Obs. Gen. Unio, (244) vol. xi, p. 93, pl. xxiii, f. 43.

G. Estabrookii.
J. A. N. S., (214) vol. v, 1862, p. 298, pl. xxxvii, f. 131; Obs. Gen. Unio, (215) vol. ix, p. 120, pl. xxxvii, f. 131.

G. Etowahensis.
J. A. N. S., (214) vol. v, 1862. p. 299, pl. xxxvii, f. 133; Obs. Gen. Unio, (215) vol. ix, p. 121, pl. xxxvii, f. 133.

G. fabalis.
J. A. N. S., (214) vol. v, 1862, p. 311, pl. xxxvii, f. 154; Obs. Gen. Unio, (215) vol. ix, p. 133, pl. xxxvii, f. 154.

G. fallax.
J. A. N. S., (214) vol. v, 1862, pp. 231, 240, pl. xxxiv, f. 24; Obs. Gen. Unio, (215) vol. ix, pp. 53, 62, pl. xxxiv, f. 24.

Goniobasis fascinans.
J. A. N. S., (214) vol. v, 1862, pp. 227, 229, pl. xxxiv, f. 20; Obs. Gen. Unio, (215) vol. ix, pp. 49, 51, pl. xxxiv, f. 20.

G. flava.
J. A. N. S., (214) vol. v, 1862, p. 303, pl. xxxvii, f. 139; Obs. Gen. Unio, (215) vol. ix, p. 125, pl. xxxvii, f. 139.

G. flaveseens.
J. A. N. S., (214) vol. v, 1862, p. 339, pl. xxxviii, f. 202; Obs. Gen. Unio, (215) vol. ix, p. 161, pl. xxxviii, f. 202.

G. fraterna.
J. A. N. S., (243) vol. vi, 1866, p. 139, pl. xxiii, f. 46; Obs. Gen. Unio, vol. xi, p. 95, pl. xxiii, f. 46.

G. fumea.
J. A. N. S., (214) vol. v, 1862, p. 222, pl. xxxiv, f. 6; Obs. Gen. Unio, (215) vol. ix, p. 44, pl. xxxiv, f. 6.

G. fusiformis.
J. A. N. S., (214) vol. v, 1862, pp. 308, 311; Obs. Gen. Unio, (215) vol. ix, pp. 130, 133.

G. Gabbiana.
J. A. N. S., (214) vol. v, 1862, p. 304, pl. xxxvii, f. 141; Obs. Gen. Unio, (215) vol. ix, p. 126, pl. xxxvii, f. 141.

G. Georgina.
J. A. N. S., (214) vol. v, 1862, p. 308, pl. xxxvii, f. 149, (243) vol. vi, 1866, p. 135; Obs. Gen. Unio, (215) vol. ix, p. 130, pl. xxxvii, f. 149; (244) vol. xi, p. 91.

G. Gerhardtii.
J. A. N. S., (214) vol. v, 1862, pp. 330, 331, pl. xxxviii, f. 187; Obs. Gen. Unio, (215) vol. ix, pp. 152, 153, pl. xxxviii, f. 187.

G. germana.
J. A. N. S., (243) vol. vi, 1866, p. 153; Obs. Gen. Unio, (244) vol. xi, p. 109.

G. Gesnerii.
J. A. N. S., (258) vol. vi, 1868, p. 330, pl. liv, f. 5; Obs. Gen. Unio, (259) vol. xii, p. 90, pl. liv, f. 5.

G. gibberosa.
J. A. N. S., (214) vol. v, 1862, p. 312, pl. xxxvii, f. 155; Obs. Gen. Unio, (215) vol. ix, p. 134, pl. xxxvii, f. 155.

G. glandaria.
J. A. N. S., (214) vol. v, 1862, p. 226, pl. xxxiv, f. 14; Obs. Gen. Unio, (215) vol. ix, p. 48, pl. xxxiv, f. 14.

G. glabra.
J. A. N. S., (243) vol. vi, 1866, p. 134; Obs. Gen. Unio, (244) vol. xi, p. 90.

G. Gouldiana.
J. A. N. S., (258) vol. vi, 1868, p. 332; pl. liv, f. 9; Obs. Gen. Unio, (259) vol. xii, p. 92, pl. liv, f. 9.

G. gracilior.
J. A. N. S., (214) vol. v, 1862, pp. 230, 300; Obs. Gen. Unio, (215) vol. ix, pp. 52, 122.

G. gracilis.
J. A. N. S., (214) vol. v, 1862, pp. 303, 311; Obs. Gen. Unio, (215) vol. ix, pp. 125, 133.

Goniobasis granata.
J. A. N. S., (214) vol. v, 1862, p. 343, pl. xxxviii, f. 209; Obs. Gen. Unio, (215) vol. ix, p. 165, pl. xxxviii, f. 209.

G. granatoides.
J. A. N. S., (258) vol. vi, 1868, p. 335, pl. liv, f. 14; Obs. Gen. Unio, (259) vol. xii, p. 95, pl. liv, f. 14.

G. grata.
J. A. N. S., (214) vol. v, 1862, pp. 301, 314, 330; (243) vol. vi, 1866, p. 131; Obs. Gen. Unio, (215) vol. ix, pp. 123, 136, 152; (244) vol. xi, p. 87.

G. gratiosa.
J. A. N. S., (214) vol. v, 1862, p. 241, pl. xxxv, f. 43; Obs. Gen. Unio, (215) vol. ix, p. 63, pl. xxxv, f. 43.

G. Grosvenorii.
J. A. N. S., (214) vol. v, 1862, pp. 297, 306, pl. xxxvii, f. 128; Obs. Gen. Unio, (215) vol. ix, pp. 119, 128, pl. xxxvii, f. 128.

G. Hallenbeckii.
J. A. N. S., (214) vol. v, 1862, pp. 339, 340, pl. xxxviii, f. 203; Obs. Gen. Unio, (215) vol. ix, pp. 161, 162, pl. xxxviii, f. 203.

G. Hartmannii.
J. A. N. S., (214) vol. v, 1862, pp. 218, 233, pl. xxxiv, f. 1; Obs. Gen. Unio, (215) vol. ix, pp. 40, 55, pl. xxxiv, f. 1.

G. Haysiana.
T. A. P. S., (214) vol. v, 1862, pp. 235, 241; Obs. Gen. Unio, (215) vol. ix, pp. 57, 63.

G. Holstonia.
J. A. N. S., (214) vol. v, 1862, p. 339; Obs. Gen. Unio, (215) vol. ix, p. 161.

G. Hydei.
J. A. N. S., (214) vol. v, 1862, p. 345; Obs. Gen. Unio, (215) vol. ix, p. 167.

G. inclinans.
J. A. N. S., (214) vol. v, 1862, pp. 318, 319, pl. xxxvii, f. 165; Obs. Gen. Unio, (215) vol. ix pp. 140, 141, pl. xxxvii, f. 165.

G. inconstans.
J. A. N. S., (214) vol. v, 1862, p. 325, pl. xxxviii, f. 178; Obs. Gen. Unio, (215) vol. ix, p. 147, pl. xxxvii, f. 178.

G. induta.
J. A. N. S., (214) vol. v, 1862, p. 319, pl. xxxvii, f. 166; Obs. Gen. Unio, (215) vol. ix, p. 141, pl. xxxvii, f. 166.

G. infantula.
J. A. N. S., (243) vol. vi, 1866, p. 135, pl. xxiii, f. 39; Obs. Gen. Unio, (244) vol. xi, p. 91, pl. xxiii, f. 39.

G. informis.
J. A. N. S., (243) vol. vi, 1866, p. 136, pl. xxiii, f. 41; Obs. Gen. Unio, (244) vol. xi, p. 92, pl. xxiii, f. 41.

G. infuscata.
J. A. N. S., (214) vol. v, 1862, p. 330, pl. xxxviii, f. 188; Obs. Gen. Unio, (215) vol. ix, p. 152, pl. xxxviii, f. 188.

G. impressa.
J. A. N. S., (214) vol. v, 1862, pp. 236, 244; Obs. Gen. Unio, (215) vol. ix, pp. 58, 66.

Goniobasis inoseulata.
J. A. N. S., (214) vol. v, 1862, pp. 322, 334, pl. xxxviii, f. 195; Obs. Gen. Unio, (215) vol. ix, pp. 144, 156, pl. xxxviii, f. 195.

G. instabilis.
J. A. N. S., (214) vol. v, 1862, p. 329, pl. xxxviii, f. 186; (243) vol. vi, 1866, p. 137; Obs. Gen. Unio, (215) vol. ix, p. 151, pl. xxxviii, f. 186; (244) vol. xi, p. 93.

G. interccdens.
J. A. N. S., (214) vol. v, 1862, p. 305, pl. xxxvii, f. 143; Obs. Gen. Unio, (215) vol. ix, p. 127, pl. xxxvii, f. 143.

G. interveniens.
J. A. N. S., (214) vol. v, 1862, p. 320, pl. xxxviii, f. 169; Obs. Gen. Unio, (215) vol. ix, p. 142, pl. xxxviii, f. 169.

G. Kirtlandiana.
J. A. N. S., (214) vol. v, 1862, p. 296; Obs. Gen. Unio, (215) vol. ix, p. 118.

G. lævis.
J. A. N. S., (214) vol. v, 1862, p. 297; Obs. Gen. Unio, (215) vol. ix, p. 119.

G. laqueata.
J. A. N. S., (214) vol. v, 1862, p. 314; Obs. Gen. Unio, (215) vol. ix, p. 136.

G. Lawrencei.
J. A. N. S., (274) vol. viii, 1874, p. 62, pl. xxi, f. 17; Obs. Gen. Unio, (275) vol. xiii, p. 66, pl. xxi, f. 17.

G. Leeontiana.
J. A. N. S., (214) vol. v, 1862, p. 331; (243) vol. vi, 1866, p. 138; Obs. Gen. Unio, (215) vol. ix, p. 153; (244) vol. xi, p. 94.

G. Leidyana.
J. A. N. S., (214) vol. v, 1862, p. 322, pl. xxxviii; f. 173; Obs. Gen. Unio, (215) vol. ix, p. 144, pl. xxxviii, f. 173.

G. lepida.
J. A. N. S., (214) vol. v, 1862, p. 227, pl. xxxiv, f. 17; Obs. Gen. Unio, (215) vol. ix, p. 49, pl. xxxiv, f. 17.

G. Lewisii.
J. A. N. S., (214) vol. v, 1862, pp. 221, 243, pl. xxxv, f. 46; Obs. Gen. Unio, (215) vol. ix, pp. 43, 65, pl. xxxv, f. 46.

G. Lindsleyi.
J. A. N. S., (214) vol. v, 1862, p. 319, pl. xxxvii, f. 167; Obs. Gen. Unio, (215) vol. ix, pp. 141, 142, pl. xxxvii, f. 167.

G. lita.
J. A. N. S., (214) vol. v, 1862, p. 239, pl. xxxiv, f. 40; Obs. Gen. Unio, (215) vol. ix, p. 61, pl. xxxv, f. 40.

G. lithasioides.
J. A. N. S., (243) vol. vi, 1866, p. 133, pl. xxxiii, f. 37; Obs. Gen. Unio, (244) vol. xi, p. 89, pl. xxiii, f. 37.

G. Louisvillensis.
J. A. N. S., (243) vol. vi, 1866, p. 133, pl. xxiii, f. 36; Obs. Gen. Unio, (244) vol. xi, p. 89, pl. xxxiii, f. 36.

G. luteocella.
J. A. N. S., (258) vol. vi, 1868, p. 332, pl. liv, f. 10; Obs. Gen. Unio, (259) vol. xii, p. 92, pl. liv, f. 10

Goniobasis luteola.
J. A. N. S., (214) vol. v, 1862, p. 230, pl. xxxiv, f. 22; Obs. Gen. Unio, (215) vol. ix, p. 52, pl. xxxiv, f. 22.

G. Lyonii.
J. A. N. S., (214) vol. v, 1862, pp. 313, 314, pl. xxxvii, f. 156; Obs. Gen. Unio, (215) vol. ix, pp. 135, 136, pl. xxxvii, f. 156.

G. macella.
J. A. N. S., (214) vol. v, 1862, p. 333, pl. xxxviii, f. 192; Obs. Gen. Unio, (215) vol. ix, p. 155, pl. xxxviii, f. 192.

G. mediocris.
J. A. N. S., (214) vol. v, 1862, p. 326, pl. xxxviii, f. 179; Obs. Gen. Unio, (215) vol. ix, p. 148, pl. xxxviii, f. 179.

G. mellea.
J. A. N. S., (214) vol. v, 1862, pp. 224, 305, pl. xxxiv, f. 10; Obs. Gen. Unio, (215) vol. ix, pp. 46, 127, pl. xxxiv, f. 10.

G. midas.
J. A. N. S., (214) vol. v, 1862, p. 233, pl. xxxiv, f. 28; (243) vol. vi, 1866, p. 150; Obs. Gen. Unio, (215) vol. ix, p. 255, pl. xxxiv, f. 28; (244) vol. xi, p. 106.

G. Milesii.
J. A. N. S., (243) vol. vi, 1866, p. 135, pl. xxiii, f. 40; Obs. Gen. Unio, (244) vol. xi, p. 90, pl. xxiii, f. 40.

G. modesta.
J. A. N. S., (214) vol. v, 1862, p. 277; Obs. Gen. Unio, (215) vol. ix, p. 99.

G. Murrayensis.
J. A. N. S., (258) vol. vi, 1868, p. 334, pl. liv, f. 13; Obs. Gen. Unio, (259) vol. xii, p. 94, pl. liv, f. 13.

G. mutabilis.
J. A. N. S., (214) vol. v, 1862, p. 331, pl. xxxviii, f. 189; Obs. Gen. Unio, (215) vol. ix, p. 153, pl. xxxviii, f. 189.

G. nebula.
J. A. N. S., (214) vol. v, 1862, p. 226; Obs. Gen. Unio, (215) vol. ix, p. 48.

G. negata.
J. A. N. S., (214) vol. v, 1862, p. 337, pl. xxxviii, f. 200; Obs. Gen. Unio, (215) vol. ix, p. 159, pl. xxxviii, f. 200.

G. Newberryi.
J. A. N. S., (214) vol. v, 1862, pp. 300, 318, pl. xxxvii, f. 135; Obs. Gen. Unio, (215) vol. ix, p. 122, 140, pl. xxxvii, f. 135.

G. Niagarensis.
J. A. N. S., (214) vol. v, 1862, p. 307; (243) vol. vi, 1866, p. 135; Obs. Gen. Unio, (215) vol. ix, p. 129; (244) vol. xi, p. 91.

G. Nickliniana.
J. A. N. S., (214) vol. v, 1862, pp. 309, 310; (243) vol. vi, 1866, p. 137; Obs. Gen. Unio, (215) vol. ix, pp. 131, 132; (244) vol. xi, p. 93.

G. nigrina.
J. A. N. S., (214) vol. v, 1862, pp. 300, 302, 334, pl. xxxvii, f. 137; Obs. Gen. Unio, (215) vol. ix, pp. 122, 124, 156, pl. xxxvii, f. 137.

G. nitens.
J. A. N. S., (214) vol. v, 1862, p. 304; Obs. Gen. Unio, (215) vol. ix, p. 126.

Goniobasis nubila.
J. A. N. S., (214) vol. v, 1862, p. 225, pl. xxxiv, f. 33; Obs. Gen. Unio, (215) vol. ix, p. 57, pl. xxxiv, f. 33.

G. obtusa.
J. A. N. S., (243) vol. vi, 1866, p. 138; Obs. Gen. Unio, (244) vol. xi, p. 94.

G. Ococénsis.
J. A. N. S., (214) vol. v, 1862, p. 277; Obs. Gen. Unio, (215) vol. ix, p. 99.

G. Ohioensis.
J. A. N. S., (214) vol. v, 1862, pp. 306, 307, pl. xxxvii, f. 144; Obs. Gen. Unio, (215) vol. ix, pp. 128, 129, pl. xxxvii, f. 144.

G. olivella.
J. A. N. S., (214) vol. v, 1862, p. 327, pl. xxxviii, f. 182; Obs. Gen. Unio, (215) vol. ix, p. 149, pl. xxxviii, f. 182.

G. oppugnata.
J. A. N. S., (214) vol. v, 1862, p. 233; Obs. Gen. Unio, (215) vol. ix, p. 55.

G. orbicula.
J. A. N. S., (214) vol. v, 1862, p. 238, pl. xxxiv, f. 37; Obs. Gen. Unio, (215) vol. ix, p. 60, pl. xxxiv, f. 37.

G. ornata.
J. A. N. S., (258) vol. vi, 1868, p. 337, pl. liv, f. 18; Obs. Gen. Unio, (259) vol. xii, p. 97, pl. liv, f. 18.

G. ornatella.
J. A. N. S., (214) vol. v, 1862, pp. 326, 327, pl. xxxviii, f. 181; Obs. Gen. Unio, (215) vol. ix, pp. 148, 149, pl. xxxviii, f. 181.

G. oseulata.
J. A. N. S., (214) vol. v, 1862, p. 296, pl. xxxvii, f. 126; Obs. Gen. Unio, (215) vol. ix, p. 118, pl. xxxvii, f. 126.

G. ovalis.
J. A. N. S., (214) vol. v, 1862, pp. 234, 239; Obs. Gen. Unio., (215) vol. ix, pp. 56, 61.

G. ovoidea.
J. A. N. S., (214) vol. v, 1862, p. 308; (243) vol. vi, 1866, p. 133; Obs. Gen. Unio, (215) vol. ix, p. 130; (244) vol. xi, p. 89.

G. parva.
J. A. N. S., (214) vol. v, 1862, p. 297, pl. xxxvii, f. 129; Obs. Gen. Unio, (215) vol. ix, p. 119, pl. xxxvii, f. 129.

G. paula.
J. A. N. S., (214) vol. v, 1862, p. 244, pl. xxxv, f. 48; (243) vol. vi, 1866, p. 139; Obs. Gen. Unio, (215) vol. ix, p. 66, pl. xxxv, f. 48; (244) vol. xi, p. 95.

G. paupercula.
J. A. N. S., (214) vol. v, 1862, p. 324, pl. xxxviii, f. 176; Obs. Gen. Unio, (215) vol. ix, pp. 146, 147, pl. xxxviii, f. 176.

G. perfusca.
J. A. N. S., (214) vol. v, 1862, pp. 304, 332; Obs. Gen. Unio, 215 vol. ix, pp. 126, 154.

G. peregrata.
J. A. N. S., (214) vol. v, 1862, p. 243, pl. xxxv, f. 47; Obs. Gen. Unio, (215) vol. ix, p. 65, pl. xxxv, f. 47.

G. pallescens.
J. A. N. S., (243) vol. vi, 1866, p. 130; Obs. Gen. Unio, (244) vol. xi, p. 86.

Goniobasis porrecta.
J. A. N. S., (243) vol. vi, 1866, pl. xxiii, f. 47; Obs Gen. Unio, (244) vol xi, p. 95, pl. xxiii, f. 47.

G. Postellii.
J. A. N. S., (214) vol. v, 1862, p. 343, pl. xxxviii, f. 208; Obs. Gen. Unio, (215) vol. ix, p. 165, pl. xxxviii, f. 208.

G. Prairiensis.
J. A. N. S., (214) vol. v, 1862, p. 299; pl. xxxvii, f. 132; Obs. Gen. Unio, (215) vol. ix, p. 121, pl. xxxvii, f. 132.

G. Prestoniana.
J. A. N. S., (243) vol. vi, 1866, p. 137; Obs. Gen. Unio, (244) vol. xi, p. 93.

G. proletaria.
J. A. N. S., (214) vol. v, 1862, p. 325, pl. xxxviii, f. 177; Obs. Gen. Unio, (215) vol. ix, p. 147, pl. xxxviii, f. 177.

G. propinqua.
J. A. N. S., (214) vol. v, 1862, p. 234, pl. xxxiv, f. 29; Obs. Gen. Unio, (215) vol. ix, p. 56, pl. xxxiv, f. 29.

G. propria.
J. A. N. S., (214) vol. v, 1862, p. 229, pl. xxxiv, f. 21; Obs. Gen. Unio, (215) vol. ix, p. 51, pl. xxxiv, f. 21.

G. proxima.
J. A. N. S., (214) vol. v, 1862, pp. 334, 336, 353; Obs. Gen. Unio, (215) vol. ix, pp. 156, 158, 175.

G. pudica.
J. A. N. S., (214) vol. v, 1862, p. 222, pl. xxxiv, f. 7; Obs. Gen. Unio, (215) vol. ix, p. 44, pl. xxxiv, f. 7.

G. pulla.
J. A. N. S., (243) vol. vi, 1866, p. 130, pl. xxiii, f. 32; Obs. Gen. Unio, (244) vol. xi, p. 86, pl. xxiii, f. 32.

G. punicea.
J. A. N. S., (214) vol. v, 1862, pp. 230, 232, pl. xxxiv, f. 27; Obs. Gen. Unio, (215) vol. ix, pp. 52, 54, pl. xxxiv, f. 27.

G. pupæformis.
J. A. N. S., (243) vol. vi, 1866, p. 130, pl. xxiii, f. 31; Obs. Gen. Unio, (244) vol. xi, p. 86, pl. xxiii, f. 31.

G. pupoidea.
J. A. N. S., (214) vol. v, 1862, p. 234; (243) vol. vi, 1866, p. 130; Obs. Gen. Unio, (215) vol. ix, p. 56; (244) vol. xi, p. 86.

G. purpurea.
J. A. N. S., (214) vol. v, 1862, p. 225, pl. xxxiv, f. 12; Obs. Gen. Unio, (215) vol. ix, p. 47, pl. xxxiv, f. 12.

G. purpurella.
J. A. N. S., (214) vol. v, 1862, p. 327, pl. xxxviii, f. 183; Obs. Gen. Unio, (215) vol. ix, p. 149, pl. xxxviii, f. 183.

G. Pybasii.
J. A. N. S., (214) vol. v, 1862, pp. 313, 314, pl. xxxvii, f. 157; Obs. Gen. Unio, (215) vol. ix, pp. 135, 136, pl. xxxvii, f. 157.

G. quadricincta.
J. A. N. S., (243) vol. vi, 1866, p. 131, pl. xxiii, f. 33; Obs. Gen. Unio, (244) vol. xi, p. 87, pl. xxiii, f. 33.

Goniobasis quadrivittata.
J. A. N. S., (214) vol. v, 1862, p. 226; Obs. Gen. Unio, (215) vol. ix, p. 48, pl. xxxiv, f. 15.

G. rara.
J. A. N. S., (214) vol. v, 1862, p. 220, pl. xxxiv, f. 3; Obs. Gen. Unio, (215) vol. ix, p. 42, pl. xxxiv, f. 3.

G. rhombica.
J. A. N. S., (214) vol. v, 1862, p. 244; (243) vol. vi, 1866, pp. 130, 132; Obs. Gen. Unio, (215) vol. ix, p. 66; (244) vol. xi, pp. 86, 88.

G. robusta.
J. A. N. S., (214) vol. v, 1862, p. 239; Obs. Gen. Unio, (215) vol. ix, p. 61.

G. Romæ.
J. A. N. S., (243) vol. vi, 1866, p. 129, pl. xxiii, f. 30; Obs. Gen. Unio, (244) vol. xi, p. 85, pl. xxxiii, f. 30.

G. rubella.
J. A. N. S., (214) vol. v., 1862, p. 332, pl. xxxviii, f. 191; (243) vol. vi, 1866, p. 138; Obs. Gen. Unio, (215) vol. ix, p. 154, pl. xxxviii, p. 191; (244) vol. xi, p. 94.

G. rubicunda.
J. A. N. S., (214) vol. v, 1862, 235, pl. xxxiv, f. 32; Obs. Gen. Unio, (215) vol. ix, p. 57, pl. xxxiv, f. 32.

G. rubiginosa.
J. A. N. S., (214) vol. v, 1863, p. 333, pl. xxxviii, f. 193; Obs. Gen. Unio, (215) vol. ix, p. 155, pl. xxxviii, f. 193.

G. rubricata.
J. A. N. S., (214) vol. v, 1862, p. 335, pl. xxxviii, f. 197; Obs. Gen. Unio, (215) vol. ix, p. 157, pl. xxxviii, f. 197.

G. rufescens.
J. A. N. S., (214) vol. v, 1862, p. 328; Obs. Gen. Unio, (215) vol. ix, p. 150.

G. Saffordii.
J. A. N. S., (214) 1862, p. 330; Obs. Gen. Unio, (215) vol. ix, p. 152.

G. sculptilis.
J. A. N. S., (243) vol. vi, 1866, p. 148; Obs. Gen. Unio, (244) vol. xi, p. 104.

G. Sellersiana.
J. A. N. S., (214) vol. v, 1862, p. 328; Obs. Gen. Unio, (215) vol. ix, p. 150.

G. Shastaensis.
J. A. N. S., (214) vol. v, 1862, p. 337, pl. xxxviii, f. 199; Obs. Gen. Unio, (215) vol. ix, p. 159, pl. xxxviii, f. 199.

G. Shelbyensis.
J. A. N. S., (214) vol. v, 1862, p. 228, pl. xxxiv, f. 18; Obs. Gen. Unio, (215) vol. ix, p. 50, pl. xxxiv, fig. 18.

G. Showalterii.
J. A. N. S., (214) vol. v, 1862, pp. 220, 227, pl. xxxiv, f. 4; Obs. Gen. Unio, (215) vol. ix, pp. 42, 59, pl. xxxiv, f. 4.

G. similis.
J. A. N. S., (258) vol. vi, 1868, p. 328, pl. liv, f. 2; Obs. Gen. Unio, (259) vol. xii, p. 88, pl. liv, f. 2.

G. Smithsoniana.
J. A. N. S., (243) vol. vi, 1866, p. 137, pl. xxiii, f. 44; Obs. Gen. Unio, (244) vol. xi, p. 93, pl. xxii, f. 44.

Goniobasis solidula.
J. A. N. S., (214) vol. v, 1862, p. 230, pl. xxxiv, f. 23; Obs. Gen. Unio, (215) vol. ix, p. 52, pl. xxxiv, f. 23.

G. Spartanbergensis.
J. A. N. S., (214) vol. v, 1862, p. 307, pl. xxxvii, f. 147; (243) vol. vi, 1866, p. 133; Obs. Gen. Unio, (215) vol. ix, p. 129, pl. xxxvii, f. 147; (244) vol. xi, p. 89. Errata.

G. sparus.
J. A. N. S., (214) vol. v, 1862, p. 316, pl. xxxvii, f. 162; Obs. Gen. Unio, (215) vol. ix, p. 138, pl. xxxvii, f. 162.

G. Spillmanii.
J. A. N. S., (214) vol. v, 1862, p. 302, pl. xxxvii, f. 138; Obs. Gen. Unio, (215) vol. ix, pl. xxxvii, f. 138.

G. spinella.
J. A. N. S., (214) vol. v, 1862, p. 298, pl. xxxvii, f. 130; Obs. Gen. Unio, (215) vol. ix, p. 120, pl. xxxvii, f. 130.

G. Stewardsoniana.
J. A. N. S., (214) vol. v, 1862, p. 344, pl. xxxviii, f. 210; Obs. Gen. Unio, (215) vol. ix, p. 166, pl. xxxviii, f. 210.

G. straminea.
J. A. N. S., (214) vol. v, 1862, pp. 227, 228; Obs. Gen. Unio, (215) vol. ix, pp. 49, 50, pl. xxxiv, f. 16.

G. strenua.
J. A. N. S., (214) vol. v, 1862, p. 316, pl. xxxvii, f. 161; Obs. Gen. Unio, (215) vol. ix, p. 138, pl. xxxvii, f. 161.

G. striatula.
J. A. N. S., (214) vol. v, 1866, p. 268; Obs. Gen. Unio, (215) vol. ix, p. 90.

G. strigosa.
J. A. N. S., (214) vol. v, 1862, p. 298; (243) vol. vi, 1866, p. 140; Obs. Gen. Unio, (215) vol. ix, p. 120; (244) vol. xi, p. 96.

G. suavis.
J. A. N. S., (214) vol. v, 1862, pp. 221, 228, 330, pl. xxxiv, f. 19; Obs. Gen. Unio, (215) vol. ix, pp. 43, 50, 152, pl. xxxiv, f. 19.

G. subangulata.
J. A. N. S., (214) vol. v, 1862, p. 320; Obs. Gen. Unio, (215) vol. ix, p. 152.

G. subrhombica.
J. A. N. S., (243) vol. vi, 1866, p. 132; Obs. Gen. Unio, (244) vol. xi, p. 88, pl. xxiii, f. 34.

G. sulcata.
J. A. N. S., (258) vol. vi, 1868, p. 329, pl. liv, f. 3; Obs. Gen. Unio, (259) vol. xii, p. 89, pl. liv, f. 3.

G. Taitiana.
J. A. N. S., (214) vol. v, 1862, p. 301; Obs. Gen. Unio, (215) vol. ix, p. 123.

G. tenebrosa.
J. A. N. S., (214) vol. v, 1862, p. 335; (243) vol. vi, 1866, p. 133; Obs. Gen. Unio, (215) vol. ix, p. 157; (244) vol. xi, p. 89.

G. tenebrovittata.
J. A. N. S., (214) vol. v, 1862, p. 301, pl. xxxvii, f. 136; Obs. Gen. Unio, (215) vol. ix, p. 123, pl. xxxvii, f. 136.

Goniobasis terebralis.
J. A. N. S., (214) vol. v, 1862, p. 298; Obs. Gen. Unio, (215) vol. ix, p. 120.

G. teres.
J. A. N. S., (214) vol. v, 1862, pp. 332, 333; Obs. Gen. Unio, (215) vol. ix, pp. 154, 155.

G. Thorntonii.
J. A. N. S., (214) vol. v, 1862, p. 320, pl. xxxviii, f. 168; Obs. Gen. Unio, (215) vol. ix, p. 142, pl. xxxviii, f. 168.

G. Tryoniana.
J. A. N. S., (214) vol. v, 1862, pp. 339, 342, pl. xxxviii, f. 207; Obs. Gen. Unio, (215) vol. ix, pp. 161, 164, pl. xxxviii, f. 207.

G. Tuomeyi.
J. A. N. S., (214) vol. v, 1862, p. 311, pl. xxxvii, f. 153; Obs. Gen. Unio, (215) vol. ix, p. 133, pl. xxxvii, f. 153.

G. Ucheénsis.
J. A. N. S., (214) vol. v, 1862, pp. 334, 335, pl. xxxviii, f. 194; Obs. Gen. Unio, (215) vol. ix, pp. 156, 157, pl. xxxviii, f. 194.

G. Vanuxemiana.
J. A. N. S., (214) vol. v, 1862, pp. 234, 238, 307, 338, 350, pl. xxxvii, f. 146; Obs. Gen. Unio, (215) vol. ix, pp. 56, 60, 129, 160, 172, pl. xxxvii, f. 146.

G. Vanuxemii.
J. A. N. S., (243) vol. vi, 1866, p. 137; Obs. Gen. Unio, (244) vol. xi, p. 93.

G. varians.
J. A. N. S., (214) vol. v, 1862, pp. 219, 220, pl. xxxiv, f. 2; Obs. Gen. Unio, (215) vol. ix, pp. 41, 42, pl. xxxiv, f. 2.

G. variata.
J. A. N. S., (214) vol. v, 1862, p. 224, pl. xxxiv, f. 11; Obs. Gen. Unio, (215) vol. ix, p. 46, pl. xxxiv, f. 11.

G. varicosa.
J. A. N. S., (214) vol. v, 1862, p. 306; Obs. Gen. Unio, (215) vol. ix, p. 128.

G. Vauxiana.
J. A. N. S., (214) vol. v, 1862, pp. 309, 310, pl. xxxvii, f. 150; (243) vol. vi, 1866, p. 153; Obs. Gen. Unio, (215) vol. ix, pp. 131, 132, pl. xxxvii, f. 150; (244) vol. xi, p. 109.

G. venusta.
J. A. N. S., (258) vol. vi, 1868, p. 336, pl. liv, f. 17; Obs. Gen. Unio, (259) vol. xii, p. 96, pl. liv, f. 17.

G. versa.
J. A. N. S., (243) vol. vi, 1866, p. 137; Obs. Gen. Unio, (244) vol. xi, p. 93.

G. vesicula.
J. A. N. S., (214) vol. v, 1862, p. 242, pl. xxxv, f. 45; Obs. Gen. Unio, (215) vol. ix, p. 64, pl. xxxv, f. 45.

G. Viennaensis.
J. A. N. S., (214) vol. v, 1862, p. 315, pl. xxxvii, f. 160; Obs. Gen. Unio, (215) vol. ix, p. 137, pl. xxxvii, f. 160.

G. Virginiea.
J. A. N. S., (214) vol. v, 1862, p. 337; Obs. Gen. Unio, (215) vol. ix, p. 159.

Goniobasis virgulata.
J. A. N. S., (214) vol. v, 1862, p. 223, pl. xxxiv, f. 9; Obs. Gen. Unio, (215) vol. ix, p. 45, pl. xxxiv, f. 9.

G. viridistriata.
J. A. N. S., (243) vol. vi, 1866, pp. 140, 141, pl. xxiii, f. 48; Obs. Gen. Unio, (244) vol. xi, pp. 96, 97, pl. xxiii, f. 48.

G. viridicata.
J. A. N. S., (214) vol. v, 1862, p. 322, pl. xxxviii, f. 172; Obs. Gen. Unio, (215) vol. ix, p. 144, pl. xxxviii, f. 172.

G. vittatella.
J. A. N. S., (243) vol. vi, 1866, p. 134, pl. xxiii, f. 38; Obs. Gen. Unio, (244) vol. xi, p. 90, pl. xxiii, f. 38.

G. Warderiana.
J. A. N. S., (243) vol. vi, 1866, p. 138; Obs. Gen. Unio, (244) vol. xi, p. 94.

G. Wheatleyi.
J. A. N. S., (258) vol. vi, 1868, p. 328, pl. liv, f. 1; Obs. Gen. Unio, (259) vol. xii, p. 88, pl. liv, f. 1.

G. Whitei.
J. A. N. S., (214) vol. v, 1862, p. 310, pl. xxxvii, f. 151; Obs. Gen. Unio, (215) vol. ix, p. 132, pl. xxxvii, f. 151.

G. Whitfieldensis.
J. A. N. S., (258) vol. vi, 1868, p. 330, pl. liv, f. 6; Obs. Gen. Unio, (259) vol. xii, p. 90, pl. liv, f. 6.

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(18) Con. Geol., 1833, p. 60.

G. donaciformis.
(18) Con. Geol., 1833, p. 60.

G. Moulinsii.
(18) Con. Geol., 1833, p. 59, pl. ii, f. 33.

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P. A. N. S., (145) vol. x, 1858, p. 218.

GYROTOMA.
P. A. N. S., (182) vol. xii, 1860, p. 186; J. A. N. S., (214) vol. v, 1862, p. 245; Obs. Gen. Unio, (215) vol. ix, p. 67.

G. demissa.
P. A. N. S., (182) vol. xii, 1860, p. 186; J. A. N. S., (214) vol. v, 1862, p. 246; Obs. Gen. Unio, (215) vol. ix, p. 68.

G. quadrata.
P. A. N. S., (182) vol. xii, 1860, p. 186; J. A. N. S., (214) vol. v, 1862, p. 246; Obs. Gen. Unio, (215) vol. ix, p. 68.

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Helicina lens.
T. A. P. S., (20) vol. v, 1832, p. 49, pl. xix, f. 56; Obs. Gen. Unio, (21) vol. i, p. 161, pl. xix, f. 56.

H. pulcherrima.
T. A. P. S., (20) vol. v, 1832, p. 49, pl. xix, f. 57; (27) vol. vi, 1836, p. 69; Obs. Gen. Unio, (21) vol. i, p. 161, pl. xix, f. 57; (29) vol. ii, p. 69.

H. virginea.
T. A. P. S., (20) vol. v, 1832, p. 50, pl. xix, f. 58; Obs. Gen. Unio, (21) vol. i, p. 162, pl. xix, f. 58.

HELIX.
T. A. P. S., (51) vol. ix, 1841, p. 1; (82) vol. x, 1852, p. 304; Obs. Gen. Unio, (56) vol. iv, p. 1; (83) vol. v, p. 60; P. Z. S. L., vol. xviii, 1850, p. 191.

Helix Balasteriana.
P. A. P. S., (31) vol. i, 1840, p. 175.

H. Balestieriana.
T. A. P. S., (38) vol. vii, 1841, p. 460, pl. xii, f. 10.

H. Blainvilliana.
P. A. P. S., (31) vol. i, 1840, p. 174; T. A. P. S., (38) vol. vii, 1841, p. 463, pl. xii, f. 15.

H. Blandingiana.
P. A. P. S., (31) vol. i, 1840, p. 175; T. A. P. S., (38) vol. vii, 1841, p. 459, pl. xii, f. 9.

H. Bonplandii.
T. A. P. S., (82) vol. x, 1852, p. 305; Obs. Gen. Unio, (83) vol. v, p. 61.

H. Californiensis.
T. A. P. S., (27) vol. vi, 1837, pp. 99, 100, pl. xxiii, f. 79; J. A. N. S., (243) vol. vi, 1866, p. 155; Obs. Gen. Unio, (29) vol. ii, pp. 99, 100, pl. xxiii, f. 79; (244) vol. xi, p. 111; P. A. N. S., (109) vol. viii, 1856, p. 81.

H. carioscula.
T. A. P. S., (38) vol. vii, 1841, p. 465.

H. Carolinensis.
T. A. P. S., (15) vol. iv, 1830, pp. 102, 103, pl. xv, f. 33, a, b, c.; Obs. Gen. Unio, (21) vol. i, p. 112, pl. xv, f. 33, a, b, c.

H. cepoides.
P. A. P. S., (31) vol. i, 1840, p. 174; T. A. P. S., (38) vol. vii, 1841, p. 462, pl. xii, f. 14.

H. cincta.
T. A. P. S., (20) vol. v, 1832, p. 56, pl. xix, f. 68; Obs. Gen. Unio, (21) vol. i, p. 168, pl. xix, f. 68.

H. citrina.
T. A. P. S., (20) vol. v, 1832, p. 55; (38) vol. vii, 1841, p. 462; Obs. Gen. Unio, (21) vol. i, p. 167.

H. Clarkii.
P. A. N. S., (137) vol. x, 1858, p. 41; J. A. N. S., (243) vol. vii, 1866, p. 182, pl. xxiv, f. 111; Obs. Gen. Unio, (244) vol. xi, p. 138, pl. xxiv, f. 111.

H. clausa.
T. A. P. S., (27) vol. vi, 1836, p. 87; Obs. Gen. Unio, (29) vol. ii, p. 87.

H. Columbiana.
T. A. P. S., (27) vol. vi, 1836, p. 89, pl. xxiii, f. 75; Obs. Gen. Unio, (29) vol. ii, p. 89, pl. xxiii, f. 75.

H. concava.
T. A. P. S., (27) vol. vi, 1836, p. 88; Obs. Gen. Unio, (29) vol. ii, p. 88.

H. contusa.
T. A. P. S., (38) vol. 7, 1841, p. 460.

H. Couchiana.
P. A. N. S., (125) vol. ix, 1857, p. 102; J. A. N. S., (243) vol. vi, 1866, pp. 183, 184, pl. xxiv, f. 112; Obs. Gen. Unio, (244) vol. xi, pp. 139, 140, pl. xxiv, f. 112.

H. Cuvieriana.
P. A. P. S., (31) vol. i, 1840, p. 175; T. A. P. S., (38) vol. vii, 1841, p. 461, pl. xii, f. 12.

H. cyclostoma.
T. A. P. S., (20) vol. v, 1832, p. 53; Obs. Gen. Unio, (21) vol. i, p. 165.

H. cyclostomopsis.
T. A. P. S., (20) vol. v, 1832, p. 53, pl. xix, f. 63.

Helix diaphana.
T. A. P. S., (20) vol. v. 1832, p. 54, pl. xix, f. 65; Obs. Gen. Unio, (21) vol. i, p. 166, pl. xix, f. 65.

H. fatigiata.
T. A. P. S., (82) vol. x, 1852, p. 304; Obs. Gen. Unio, (83) vol. v, p. 60.

H. ferruginea.
P. A. P. S., (31) vol. i, 1840, p. 175; T. A. P. S., (38) vol. vii, 1841, p. 464.

H. globula.
T. A. P. S., (20) vol. v, 1832, p. 58, pl. xix, f. 70; Obs. Gen. Unio, (21) vol. i, p. 170, pl. xix, f. 70.

H. hæmastoma.
T. A. P. S., (38) vol. vii, 1841, p. 464.

H. Himalana.
T. A. P. S., (20) vol. v, 1832, p. 55, pl. xix, f. 66; (38) vol. vii, 1841, pp. 460, 462, 463; Obs. Gen. Unio, (21) vol. i, p. 67, pl. xix, f. 66.

H. hirsuta.
T. A. P. S., (15) vol. iv, 1830, p. 104; (51) vol. ix, 1841, p. 2; (82) vol. x, 1852, pp. 303, 304; Obs. Gen. Unio, (21) vol. i, p. 114; (56) vol. iv, p. 2; (83) vol. v, pp. 59, 60.

H. Humphreysiana.
P. A. P. S., (31) vol. i, 1840, p. 175; T. A. P. S., (38) vol. vii, 1841, p. 463, pl. xii, f. 16.

H. inflecta.
T. A. P. S., (82) vol. x, 1852, p. 303; Obs. Gen. Unio, (83) vol. v, p. 59.

H. jejuna.
T. A. P. S., (27) vol. vi, 1836, p. 87; (51) vol. ix, 1841, p. 17; Obs. Gen. Unio, (29) vol. ii, p. 87; (59) vol. iv, p. 17.

H. labyrinthica.
T. A. P. S., (51) vol. ix, 1841, p. 18; Obs. Gen. Unio, (56) vol. iv. p. 18.

H. lævipes.
T. A. P. S., (20) vol. v, 1832, p. 55; Obs. Gen. Unio, (21) vol. i, p. 167.

H. Lamarckiana.
P. A. P. S., (31) vol. i, 1840, p. 174; T. A. P. S., (38) vol. vii, 1841, pp. 461, 463, pl. xii, f. 11.

H. Leai.
T. A. P. S., (82) vol. x, 1852, pp. 303, 304; Obs. Gen. Unio, (83) vol. v, pp. 59, 60.

H. Lecontii.
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H. leporina.
T. A. P. S., (82) vol. x, 1852, p. 304; Obs. Gen. Unio, (83) vol. v, p. 60.

H. ligera.
T. A. P. S., (27) vol. vi, 1836, p. 67; Obs. Gen. Unio (29) vol. ii, p. 67.

H. limbata.
T. A. P. S., (51) vol. ix, 1841, p. 1; Obs. Gen. Unio, (56) vol. iv, p. 1.

H. luteo-fasciata.
P. A. P. S., (31) vol. i, 1840, p. 175; T. A. P. S., (38) vol. vii, 1841, p. 462, pl. xii, f. 13.

H. magnifica.
T. A. P. S., (27) vol. vi, 1836, p. 89, pl. xxiii, f, 88; Obs. Gen. Unio, (29) vol. ii, p. 89, pl. xxiii, f. 88.

Helix mamilla.
T. A. P. S., (20) vol. v, 1832, pp. 52, 54, pl. xix, f. 64; Obs. Gen. Unio, (21) vol. i, pp. 164, 166, pl. xix, f. 64.

H. minutissima.
P. A. P. S., (40) vol, ii, 1841, p. 82; T. A. P. S., (51) vol. ix, 1841, p. 17; Obs. Gen. Unio, (56) vol. iv, p. 17.

H. Mitchelliana.
T. A. P. S., (27) vol. vi, 1836, p. 87, pl. xxiii, f. 71; Obs. Gen. Unio, (29) vol. ii, p. 87, pl. xxiii, f. 71.

H. Mobiliana.
P. A. P. S., (40) vol. ii, 1841, p. 82; T. A. P. S., (51) vol. ix, 1841, p. 17; Obs. Gen. Unio, (56) vol. iv, p. 17.

H. monodon.
T. A. P. S., (82) vol. x, 1852, p. 304; Obs. Gen. Unio, (83) vol. v, p. 60.

H. monodonta.
T. A. P. S., (20) vol. v, 1832, p. 53, pl. xix, f. 62; Obs. Gen. Unio, (21) vol. i, p. 165, pl. xix. f. 62.

H. monozonalis.
T. A. P. S., (38) vol. vii, 1841, p. 461.

H. muscarum.
T. A. P. S., (20) vol. v, 1832, p. 51, pl. xix, f. 59; Obs. Gen. Unio, (21) vol. i, p. 163; pl. xix, f. 59.

H. Nickliniana.
T. A. P. S., (27) vol. vi, 1837, p. 100, pl. xxiii, f. 84; J. A. N. S., (243) vol. vi, 1866, p. 155; Obs. Gen. Unio, (29) vol. ii, p. 100, pl. xxiii, f. 84; (244) vol. xi, p. 111; P. A. N. S., (109) vol. viii, 1856, p. 81.

H. Nuttalliana.
T. A. P. S., (27) vol. vi, 1836, p. 88, pl. xxiii, f. 74; (38) vol. vii, 1841, p. 462; Obs. Gen. Unio, (29) vol. ii, p. 88, pl. xxiii, f. 74.

H. Oregonensis.
T. A. P. S., (27) vol. vi, 1837, p. 100, pl. xxiii, f. 85; J. A. N. S., (243) vol. vi, 1866, p. 155; Obs. Gen. Unio, (29) vol. ii, p. 100, pl. xxiii, f. 85; (244) vol. xi, p. 111; P. A. N. S., (109) vol. viii, 1856, p. 81.

H. ovum reguli.
T. A. P. S., (20) vol. v, 1832, p. 52, pl. xix, f. 61; Obs. Gen. Unio, (21) vol. i, p. 164, pl. xix, f. 61.

H. palliata.
T. A. P. S., (15) vol. iv, 1830, pp. 102, 103; J. A. N. S., (243) vol. vi, 1866, p. 183; Obs. Gen. Unio, (21) vol. i, pp. 112, 113; (244) vol. xi, p. 139.

H. pellis serpentis.
T. A. P. S., (27) vol. vi, 1836, p. 90; Obs. Gen. Unio, (29) vol. ii, p. 90.

H. Pennsylvanica.
J. A. N. S., (243) vol. vi, 1866, p. 182; Obs. Gen. Unio, (244) vol. xi, p. 138.

H. purpuragula.
T. A. P. S., (20) vol. v, 1832, p. 51, pl. xix, f. 60; (27) vol. vi, 1836, p. 69; Obs. Gen. Unio, (21) vol. i, p. 163, pl. xix, p. 163; (29) vol. ii, p. 69.

H. Richardii.
T. A. P. S., (82) vol. x, 1852, p. 305; Obs. Gen. Unio, (83) vol. v, p. 61.

Helix Senegalensis.
T. A. P. S., vii, 1841, p. 460.
H. solidaria.
T. A. P. S., (27) vol. vi, 1836, p. 88; Obs. Gen. Unio, (29) vol. ii, p. 88.
H. Tamaulipasensis.
P. A. N. S., (125) vol. ix, 1857, p. 102; J. A. N. S., (243) vol. vi, 1866, p. 186, pl. xxiv, f. 113; Obs. Gen. Unio, (244) vol. xi, p. 139, pl. xxiv, f. 113.
H. Tennesseensis.
P. A. P. S., (39) vol. ii, 1841, p. 31; T. A. P. S., (51) vol. ix, 1841, p. 1; Obs. Gen. Unio, (56) vol. iv, p. 1.
H. Texasiana.
J. A. N. S., (243) vol. vi, 1866, p. 184; Obs. Gen. Unio, (244) vol. xi, p. 140.
H. thyroideus.
T. A. P. S., (27) vol. vi, 1836, p. 89; 1837, p. 99; Obs. Gen. Unio, (29) vol. ii, pp. 89, 99.
H. Townsendiana.
T. A. P. S., (27) vol. vi, 1837, p. 99, pl. xxiii, f. 80; Obs. Gen. Unio, (29) vol. ii, p. 99, pl. xxiii, f. 80.
H. Troostiana.
J. A. N. S., (243) vol. vi, 1866, pp. 183, 184; Obs. Gen. Unio, (244) vol. xi, pp. 139, 140.
H. unidentata.
T. A. P. S., (38) vol. vii, 1841, pp. 463, 464.
H. Vancouverensis.
T. A. P. S., (27) vol. vi, 1836, p. 87, pl. xxiii, f. 72; Obs. Gen. Unio, (29) vol. ii, p. 87, pl. xxiii, f. 72.
H. vesica.
T. A. P. S., (20) vol. v, 1832, p. 56, pl. xix, f. 67; Obs. Gen. Unio, (21) vol. i, p. 168, pl. xix, f. 67.
H. viridis.
T. A. P. S., (38) vol. vii, 1841, p. 456.
H. Wardiana.
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H. Woodiana.
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(18) Con. Geol., 1833, p. 72.
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(18) Con. Geol., 1833, p. 72, pl. ii, f. 50.

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(18) Con. Geol., 1833, p. 96.
H. cornucopia.
(18) Con. Geol., 1833. p. 95.
H. pygmæa.
(18) Con. Geol., 1833, p. 95, pl. iii, f. 75.

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H. syrmatophora.
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(18) Con. Geol., 1833, p. 97.
I. trochiformis.
(18) Con. Geol., 1833, p. 96, pl. iii, f. 76.

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(18) Con. Geol., 1833, p. 72; P. A. N. S., (145) vol. x, 1858, p. 221.

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T. A. P. S., (16) vol. iv, 1831, pp. 122, 127; (51) vol. ix, 1841, p. 17; J. A. N. S., (214) vol. v, 1862, pp. 218, 269, 345; (243) vol. vi, 1866, pp. 145, 149; Obs. Gen. Unio, (21) vol. i, p. 132; (56) vol. iv, p. 17; (215) vol. ix, pp. 40, 91, 167; (244) vol. xi, pp. 101, 105; P. A. N. S., (201) vol. xii, 1861, p. 393.
I. fluviatilis.
T. A. P. S., (51) vol. ix, 1841, p. 17; Obs. Gen. Unio, (56) vol. iv, p. 17.
I. fusiformis.
T. A. P. S., (16) vol. iv, 1831, p. 122, pl. xv, f. 37, a, b; (20) vol. v, 1834, p. 112; Obs. Gen. Unio, (21) vol. i, pp. 132, 224, pl. xv, f. 37, a, b; P. A. N. S., (201) vol. xiii, 1861, p. 393.
I. gracilis.
P. A. N. S., (201) vol. xiii, 1861, p. 394; J. A. N. S., 214, vol. v, 1862, p. 349, pl. xxxix, f. 217; Obs. Gen. Unio, (215) vol. ix, p. 171, pl. xxxix, f. 217.
I. modesta.
P. A. N. S., (201) vol. xiii, 1861, p. 394; J. A. N. S., (214) vol. v, 1862, p. 348, pl. xxxix, f. 216; Obs. Gen. Unio, (215) vol. ix, p. 170, pl. xxxix, f. 216.
I. nodosa.
P. A. N. S., (201) vol. xiii, 1861, p. 393; J. A. N. S., (214) vol. v, 1862, pp. 346, 347, pl. xxxix, f. 212; Obs. Gen. Unio, (215) vol. ix, pp. 168, 169, pl. xxxix, f. 212.
I. robusta.
P. A. N. S., (201) vol. xiii, 1861, p. 393; J. A. N. S., (214) vol. v, 1862, p. 346, pl. xxxix, f. 213; Obs. Gen. Unio, (215) vol. ix, p. 168, pl. xxxix f. 213.
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P. A. N. S., (39) vol. ii, 1841, p. 34; T. A. P. S., (51) vol. ix, 1841, p. 17; Obs. Gen. Unio, (56) vol. iv, p. 17.

I. variabilis.
P. A. N. S., (201) vol. xiii, 1861, p. 393; J. A. N. S., (214) vol. v, 1862, p. 347, pl. xxxix, f. 213; Obs. Gen. Unio, (215) vol. ix, p. 169, pl. xxxix, f. 213.

I. viridula.
P. A. N. S., (201) vol. xiii, 1861, p. 394; J. A. N. S., (214) vol. v, 1862, p. 349, pl. xxxix, f. 218; Obs. Gen. Unio, (215) vol. ix, p. 171, pl. xxxix, f. 218.

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T. A. P. S., (12) vol. iii, 1829, pp. 442, 443; (27) vol. vi, 1838, pp. 114, 115, 117, 118, 141, 150; Obs. Gen. Unio, (21) vol. i, p. 57; (29) vol. ii, pp. 114, 115, 117, 118, 141, 150.

I. Clappertoni.
T. A. P. S., (20) vol. v, 1833, p. 94; Obs. Gen. Unio, (21) vol. i, p. 206.

I. cœlestis.
T. A. P. S., (27) vol. vi, 1836, p. 82, pl. xxii, f. 70; Obs. Gen. Unio, (29) vol. ii, p. 82, pl. xxii, f. 70.

I. esula.
T. A. P. S., (27) vol. vi, 1838, p. 140; Obs. Gen. Unio (29) vol. ii, p. 140.

I. exotica.
T. A. P. S., (20) vol. v, 1833, p. 94; (27) vol. vi, 1838, pp. 118, 141, 150; Obs. Gen. Unio, (21) vol. i, p. 206; (29) vol. ii, pp. 118, 141, 150.

I. longina.
T. A. P. S., (27) vol. vi, 1838, p. 142; Obs. Gen. Unio, (29) vol. ii, p. 142.

I. nilotica.
T. A. P. S., (15) vol. iv, 1830, p. 67; (20) vol. v, 1833, p. 94; (27) vol. vi, 1838, p. 118; Obs. Gen. Unio, (21) vol. i, pp. 77, 206; (29) vol. ii, p. 118.

I. mutel.
T. A. P. S., (27) vol. vi, 1838, p. 142; Obs. Gen. Unio, (29) vol. ii, p. 142.

I. Oudnicei.
T. A. P. S., (27) vol. vi, 1838, p. 141; Obs. Gen. Unio, (29) vol. ii, p. 141.

I. ovata.
T. A. P. S., (27) vol. vi, 1838, pp. 141, 150; Obs. Gen. Unio, (29) vol. ii, pp. 141, 150.

I. rostrata.
T. A. P. S., (27) vol. vi, 1838, p. 142; Obs. Gen. Unio, (29) vol. ii, p. 142.

I. rubens.
T. A. P. S., (20) vol. v, 1833, p. 93; (27) vol. vi, 1838, p. 138; J. A. N. S., (242) vol. vi, 1866, p. 64; Obs. Gen. Unio, (21) vol. i, p. 205; (29) vol. ii, p. 138; (244) vol. xi, p. 68.

I. striata.
T. A. P. S., (27) vol. vi, 1838, p. 141; Obs. Gen. Unio, (29) vol. ii, p. 141.

I. trapezialis.
T. A. P. S., (27) vol. vi, 1838, p. 139; Obs. Gen. Unio, (29) vol. ii. p. 139.

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(18) Con. Geol., 1833, p. 72; J. A. N. S., (133) vol. iii, 1857, p. 318; Obs. Gen. Unio, (150) vol. vi, p. 38.

I. Moltkiana.
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T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

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L. armigera.
J. A. N. S., (243) vol. vi, 1866, p. 146; Obs. Gen. Unio, (244) vol. xi, p. 102.

L. brevis.
J. A. N. S., (214) vol. v, 1862, p. 354; Obs. Gen. Unio, (215) vol. ix, p. 176.

L. curta.
J. A. N. S., (258) vol. vi, 1868, p. 340, pl. liv, f. 24; Obs. Gen. Unio, (259) vol. xii, p. 100, pl. liv, f. 24.

L. cylindrica.
J. A. N. S., (258) vol. vi, 1868, p. 341, pl. liv, f. 26; Obs. Gen. Unio, (259) vol. xii, p. 901, pl. liv, f. 26.

L. dilatata.
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L. Downici.
J. A. N. S., (214) vol. v, 1862, p. 354, pl. xxxix, f. 227; (243) vol. vi, 1866, p. 134; Obs. Gen. Unio, (215) vol. ix, p. 176, pl. xxxix, f. 227; (244) vol. xi, p. 90.

L. Duttoniana.
J. A. N. S., (214) vol. v, 1862, pp. 242, 259, 314; Obs. Gen. Unio, (215) vol. ix, pp. 64, 81, 136.

L. Florentiana.
J. A. N. S., (214) vol. v, 1862, pp. 224, 260; Obs. Gen. Unio, (215) vol. ix, pp. 46, 82.

L. fuliginosa.
J. A. N. S., (214) vol. v, 1862, p. 224; Obs. Gen. Unio, (215) vol. ix, p. 46.

L. fusiformis.
P. A. P. S., (193) vol. xiii, 1861, p. 54; J. A. N. S., (214) vol. v, 1862, p. 261, pl. xxxv, f. 71; Obs. Gen. Unio, (215) vol. ix, p. 83, pl. xxxv. f. 71.

L. imperialis.
P. A. N. S., (193) vol. xiii, 1861, p. 55; J. A. N. S., (214) vol. v, 1862, pp. 258, 260, pl. xxxv, f. 67; Obs. Gen. Unio, (215) vol. ix, pp. 80, 82, pl. xxxv, f. 67.

L. Jayana.
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L. pernodosa.
J. A. N. S., (243) vol. vi, 1866, p. 146; Obs. Gen. Unio, (244) vol. xi, p. 102.

L. pumila.
J. A. N. S., (214) vol. v, 1862, p. 279; Obs. Gen. Unio, (215) vol. ix, p. 101.

L. purpurea.
J. A. N. S., (258) vol. vi, 1868, p. 340, pl. liv, f. 23; Obs. Gen. Unio, (259) vol. xii, p. 100, pl. liv, f. 23.

L. salebrosa.
J. A. N. S., (214) vol. v, 1862, pp. 260, 261; Obs. Gen. Unio, (215) vol. ix, pp. 82, 83.

L. semigranulata.
J. A. N. S., (214) vol. v, 1862, p. 260; Obs. Gen. Unio, (215) vol. ix, p. 82; (244) vol. xi, Errata.

L. semigranulosa.
J. A. N. S., (244) vol. xi, Errata.

L. Showalterii.
P. A. N. S., (182) vol. xii, 1860, p. 188; J. A. N. S., (214) vol. v, 1862, pp. 226, 262, 311, pl. xxxv, f. 72; Obs. Gen. Unio, (215) vol. ix, pp. 48, 84, 133, pl. xxxv, f. 72.

L. subglobosa.
P. A. N. S., (193) vol. xiii, 1861, p. 55; J. A. N. S., (214) vol. v, 1862, p. 261, pl. xxxv, f. 70; Obs. Gen. Unio, (215) vol. ix, p. 83, pl. xxxv, f. 70.

L. Tuomeyi.
J. A. N. S., (214) vol. v, 1862, p. 259, pl. xxxv, f. 68; Obs. Gen. Unio, (215) vol. ix, p. 81, pl. xxxv, f. 68; P. A. N. S., (193) vol. xiii, 1861, p. 55.

L. venusta.
J. A. N. S., (214) vol. v, 1862, p. 260; Obs. Gen. Unio, (215) vol. ix, p. 82.

L. vittata.
J. A. N. S., (214) vol. v, 1862, p. 354, pl. xxxix, f. 226; Obs. Gen. Unio, (215) vol. ix, p. 176, pl. xxxix, f. 226.

L. Whcatleyi.
J. A. N. S., (258) vol. vi, 1868, p. 341, pl. liv, f. 25; Obs. Gen. Unio, (259) vol. xii, p. 101, pl. liv, f. 25.

Lottia Antillarum.
T. A. P. S., (34) vol. vii, 1840, p. 74.

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(18) Con. Geol., 1833, p. 59.

L. compressa.
(18) Con. Geol., 1833, p. 55, pl. i, f. 27.

L. cornuta.
(18) Con. Geol., 1833, pp. 56, 57, pl. i, f. 29.

L. impressa.
(18) Con. Geol., 1833, pp. 57, 58, 59, pl. i, f. 30.

L. lunata.
(18) Con. Geol., 1833, p. 58, pl. i, f. 32.

L. mitris.
(18) Con. Geol., 1833, p. 58.

L. papyracea.
(18) Con. Geol., 1833, p. 58, pl. i, f. 31.

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(18) Con. Geol., 1832, p. 56, pl. i, f. 28.

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(18) Con. Geol., 1833, p. 190.

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(18) Con. Geol., 1833, p. 189, pl. vi, f. 202.

L. Duclosii.
(18) Con. Geol., 1833, p. 190, pl. vi, f. 203.

L. radiata.
(18) Con. Geol., 1833, p. 190.

L. urccolata.
(18) Con. Geol., 1833, pp. 189, 190.

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(18) Con. Geol., 1833, p. 49.

Lymnadia gigas.
T. A. P. S., vol. vi, 1838, p. 121; Obs. Gen. Unio, (29) vol. ii, p. 121.

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L. acuta.
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L. apicina.
T. A. P. S., (27) vol. vi, 1837, p. 102, pl. xxiii, f. 94; Obs. Gen. Unio, (29) vol. ii, p. 102, pl. xxiii, f. 94.

L. appressa.
T. A. P. S., (51) vol. ix, 1841, p. 8; Obs. Gen. Unio, (56) vol. iv, p. 8.

L. arctica.
J. A. N. S., (243) vol. vi, 1866, p. 160, pl. xxiv, f. 75; Obs. Gen. Unio, (244) vol. xi, p. 116, pl. xxiv, f. 75.

L. bulimoides.
P. A. P. S., (39) vol. ii, 1841, p. 33; T. A. P. S., (51) vol. ix, 1841, pp. 9, 12; J. A. N. S., (243) vol. vi, 1866, pp. 162, 163; Obs. Gen. Unio, (56) vol. iv, pp. 9, 12; (244) vol. xi, pp. 118, 119.

L. casta.
P. A. N. S., (39) vol. ii, 1841, p. 33; T. A. P. S., (51) vol. ix, 1841, pp. 10, 11; Obs. Gen. Unio, (56) vol. iv, pp. 10, 11.

L. caperata.
J. A. N. S., (243) vol. vi, 1866, p. 160; Obs. Gen. Unio, (244) vol. xi, p. 116.

L. coarctata.
T. A. P. S., (51) vol. ix, 1841, pp. 11, 12; Obs. Gen. Unio, (56) vol. iv, pp. 11, 12; P. A. P. S., (39) 1841, p. 33.

L. columella.
T. A. P. S., (51) vol. ix, 1841, pp. 11, 12; Obs. Gen. Unio, (36) vol. iv, pp. 11, 12.

L. columnaris.
T. A. P. S., (81) vol. x, 1852, p. 296; Obs. Gen. Unio, (83) vol. v, p. 52.

L. curta.
P. A. P. S., (39) vol. ii, 1841, p. 33; T. A. P. S., (51) vol. ix, 1841, p. 11; J. A. N. S., (243) vol. vi, 1866, p. 163; Obs. Gen. Unio, (56) vol. iv, p. 11; (244) vol. xi, p. 119.

L. decidiosa.
T. A. P. S., (51) vol. ix, 1841, pp. 10, 11; Obs. Gen. Unio, vol. iv, pp. 10, 11.

Lymnæa elodes.
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L. exigua.
P. A. P. S., (39) vol. ii, 1841, p. 33; T. A. P. S., (51) vol. ix, 1841, pp. 9, 10; J. A. N. S., (243) vol. vi, 1866, p. 155, 162; Obs. Gen. Unio, (56) vol. iv, pp. 9, 10; (244) vol. xi, pp. 111, 118; P. A. N. S., (109) vol. viii, 1856, p. 81.

L. exilis.
T. A. P. S., (20) vol. v, 1834, p. 114, pl. xix, f. 82; Obs. Gen. Unio, (21) vol. i, p. 226, pl. xix, f. 82.

L. fusiformis.
P. A. N. S., (39) vol. ii, 1841, p. 33; T. A. P. S., (51) vol. ix, 1841, p. 10; Obs. Gen. Unio, (56) vol. iv, p. 10.

L. Griffithiana.
P. A. P. S., (39) vol. ii, 1841, p. 33; T. A. P. S., vol. ix, 1841, p. 8; Obs. Gen. Unio, (56) vol. iv, p. 8.

L. Haydenii.
P. A. N. S., (143) vol. x, 1858, p. 166; J. A. N. S., (243) vol. vi, 1866, pp. 159, 161, pl. xxxiv, f. 73; Obs. Gen. Unio, (244) vol. xi, pp. 115, 117, pl. xxxiv, f. 73.

L. imperialis.
T. A. P. S., (20) vol. v, 1833, p. 81, pl. xix, f. 73; Obs. Gen. Unio, (21) vol. i, p. 193, pl. xix, f. 73.

L. Jamesii.
J. A. N. S., (243) vol. vi, 1866, p. 161, pl. xxiv, f. 77; Obs. Gen. Unio, (244) vol. xi, p. 117, pl. xxiv, f. 77.

L. Kirtlandiana.
P. A. N. S., (39) vol. ii. 1841, p. 33; T. A. P. S., (51) vol. ix, 1841, p. 12; Obs. Gen. Unio, (56) vol. iv, p. 12.

L. Lecontii.
J. A. N. S., (243) vol. vi, 1866, p. 162, pl. xxiv, f. 79; Obs. Gen. Unio, (244) vol. xi, p. 118, pl. xxiv, f. 79.

L. modicella.
T. A. P. S., (51) vol. ix, 1841, p. 13; Obs. Gen. Unio, (56) vol. iv, p. 13.

L. Nuttalliana.
P. A. P. S., (39) vol. ii, 1841, p. 33; T. A. P. S., (51) vol. ix, 1841, p. 9; J. A. N. S., (243) vol. vi, 1866, p. 160; Obs. Gen. Unio, (56) vol. iv, p. 9; (244) vol. xi, p. 116.

L. pallida.
P. A. N. S., (109) vol. viii, 1856, p. 81; J. A. N. S., (243) vol. vi, 1866, pp. 155, 162; Obs. Gen. Unio, (244) vol. xi, pp. 111, 118.

L. parva.
P. A. P. S., (39) vol. ii, 1841, p. 33; T. A. P. S., (51) vol. ix, 1841, p. 11; Obs. Gen. Unio, (56) vol. iv, p. 11.

L. Philadelphica.
P. A. P. S., (39) vol. ii, 1841, p. 32; T. A. P. S., (51) vol. ix, 1841, p. 8; Obs. Gen. Unio, (56) vol. iv, p. 8.

L. Pingelii.
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Lymnæa planulata.
P. A. P. S., (39) vol. ii, 1841, p. 33; T. A. P. S., (51) vol. ix, 1841, p. 9; Obs. Gen. Unio, (56) vol. iv, p. 9.

L. plica.
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L. reflexa.
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L. rubella.
P. A. P. S., (39) vol. ii, 1841, p. 33; T. A. P. S., (51) vol. ix, 1841, p. 12; Obs. Gen. Unio, (56) vol. iv, p. 12.

L. rustica.
P. A. P. S., (39) vol. ii, 1841, p. 33; T. A. P. S., (51) vol. ix, 1841, p. 10; Obs. Gen. Unio, (56) vol. iv, p. 10.

L. Smithsoniana.
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L. solida.
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L. stagnalis.
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L. umbrosa.
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(18) Con. Geol., 1833, p. 123.

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(18) Con. Geol., 1833, pp. 43, 44; T. A. P. S., (20) vol. v, 1834, p. 111; Obs. Gen. Unio, (21) vol. i, p. 223.

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(18) Con. Geol., 1833, p. 212, pl. vi, f. 223.
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(18) Con. Geol., 1833, p. 45.
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(18) Con. Geol., 1833, p. 41, pl. i, f. 9.
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(18) Con. Geol., 1833, pp. 42, 43.
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(18) Con. Geol., 1833, p. 44.
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(18) Con. Geol., 1833, pp. 42, 212, pl. i, f. 10.
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(18) Con. Geol., 1833, pp. 44, 212.
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(18) Con. Geol., 1833, p. 45.
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(18) Con. Geol., 1833, p. 44.
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M. abrupta.

T. A. P. S., (55) vol. x, 1845, p. 85, pl. ix, f. 32; J. A. N. S., (214) vol. v, 1862, pp. 231, 323; Obs. Gen. Unio, (56) vol. iv, p. 85, pl. ix, f. 32; (215) vol. ix, pp. 53, 145.

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T. A. P. S., (20) vol. v, 1833, p. 81, pl. xix, f. 72; P. Z. S., London, (59) vol. xviii, 1850, pp. 183, 193; Obs. Gen. Unio, (21) vol. i, p. 192, pl. xix, f. 72.

M. acanthica.

P. Z. S., London, (59) vol. xviii, 1850, p. 194.

M. acus.

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M. acuta.

T. A. P. S., (15) vol. iv, 1830, p. 101, pl. xv, f. 32; J. A. N. S., (214) vol. v, 1862, p. 321; Obs. Gen. Unio, (21) vol. i, p. 111, pl. xv, f. 32; (215) vol. ix, p. 143.

M. acuto carinata.

P. A. P. S., (37) vol. ii, 1841, p. 14; T. A. P. S., (43) vol. viii, 1841, p. 184, pl. vi, f. 46; Obs. Gen. Unio, (44) vol. iii, p. 22, pl. vi, f. 46.

M. adjusta.

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M. æqua.

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M. affinis.

P. A. N. S., (144) vol. viii, 1856, p. 145; J. A. N. S., (243) vol. vi, 1866, pp. 121, 125, pl. xxii, f. 23; Obs. Gen. Unio, (244) vol. xi, pp. 77, 81, pl. xxii, f. 23.

M. Alabamensis.

P. A. N. S., (198) vol. xiii, 1861, p. 121; J. A. N. S., (214) vol. v, 1862, pp. 232, 296; Obs. Gen. Unio, (215) vol. ix, pp. 54, 118.

M. albescens.

P. Z. S., London, (59) vol. xviii, 1850, p. 188.

M. Alexandrensis.

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M. altilis.

T. A. P. S., (43) vol. viii, 1841, p. 174, pl. v, f. 23; P. A. P. S., (37) vol. ii, 1841, p. 13; Obs. Gen. Unio, (44) vol. iii, p. 12, pl. v, f. 23.

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T. A. P. S., (51) vol. ix, 1842, p. 27; (55) vol. x, 1845, pp. 83, 87; Obs. Gen. Unio, (56) vol. iv, pp. 27, 83, 87.

M. amarula.

T. A. P. S., (27) vol. vi, 1835, p. 20; P. Z. S., London, (59) vol. xviii, 1850, p. 194; J. A. N. S., (214) vol. v, 1862, p. 218; Obs. Gen. Unio, (29) vol. ii, p. 20; (215) vol. ix, p. 40.

M. annulifera.

T. A. P. S., (51) vol. ix, 1842, p. 26; (81) vol. x, 1852, p. 298; J. A. N. S., (214) vol. v, 1862, p. 292; Obs. Gen. Unio, (56) vol. iv, p. 26; (83) vol. v, p. 54; (215) vol. ix, p. 114.

M. apis.

P. Z. S., London, (59) vol. xviii, 1850, p. 190.

M. arata.

P. A. P. S., (48) vol. ii, 1842, p. 242; T. A. P. S., (51) vol. ix, 1842, p. 24; (81) vol. x, 1852, p. 299; Obs. Gen. Unio, (56) vol. iv, p. 24; (83) vol. v, p. 55.

M. arctata.

T. A. P. S., (55) vol. x, 1845, p. 90, pl. ix, f, 46; Obs. Gen. Unio, (56) vol. iv, p. 90, pl. ix, f. 46.

M. armigera.

T. A. P. S., (15) vol. iv, 1830, p. 101; (51) vol. ix, 1841, p. 20; J. A. N. S., (243) vol. vi, 1866, p. 146; Obs. Gen. Unio, (21) vol. i, p. 111; (56) vol. iv, p. 20; (244) vol. xi, p. 102.

M. armillata.

P. Z. S., London, (59) vol. xviii, 1850, p. 195.

M. asperata.

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M. athleta.

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M. atra.

J. A. N. S., (243) vol. vi, 1866, p. 129; Obs. Gen. Unio, (244) vol. xi, p. 85.

M. auriculæformis.

T. A. P. S., (55) vol. x, 1845, p. 88, pl. ix, f. 39; (81) vol. x, 1852, p. 300; J. A. N. S., (214) vol. v, 1862, pp. 242, 312; Obs. Gen. Unio, (56) vol. iv, p. 88, pl. ix, f. 39; (83) vol. v, p. 56; (215) vol. ix, pp. 64, 134.

M. australis.

P. Z. S., London, (59) vol. xviii, 1850, p. 185; P. A. N. S., (144) vol. viii, 1856, p. 145; J. A. N. S., (243) vol vi, 1866, p. 126; Obs. Gen. Unio, (244) vol. xi, p. 82.

M. Babylonica.

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M. basalis.

T. A. P. S., (55) vol. x, 1845, p. 85, pl. ix, f. 33; J. A. N. S., (214) vol. v, 1862, pp. 233, 263, 313, 329; (243) vol. vi, 1866, p. 150; Obs. Gen. Unio, (56) vol. iv, p. 85, pl. ix, f. 33; (215) vol. ix, pp. 55, 85, 135, 151; (244) vol. xi, p. 106.

M. bellicosa.

P. Z. S. London, (59) vol. xviii, 1850, p. 194.

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P. A. N. S., (198) vol. xiii, 1861, p. 122; J. A. N. S., (214) vol. v, 1862, pp. 237, 344; Obs. Gen. Unio, (215) vol. ix, pp. 59, 166.

M. bicineta.
J. A. N. S., (214) vol. v, 1862, p. 244; Obs. Gen. Unio, (215) vol. ix, p. 66.

M. bicostata.
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M. blanda.
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M. blatta.
P. Z. S. London, (59) vol. xviii, 1850, p. 184.

M. Boninensis.
P. A. N. S., (144) vol. viii, 1856, p. 145; J. A. N. S., (243) vol. vi, 1866, p. 121, pl. xxii, f. 15; Obs. Gen. Unio, (244) vol. xi, p. 77, pl. xxii, f. 15.

M. Boykiniana.
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M. brevis.
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T. A. P. S., (55) vol. x, 1845, p. 90, pl. ix, f. 44; J. A. N. S., (214) vol. v, 1862, p. 344; Obs. Gen. Unio, (56) vol. iv, p. 90, pl. ix, f. 44; (215) vol. ix, p. 166.

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M. caliginosa.
P. A. P. S., (37) vol. ii, 1841, p. 15; T. A. P. S., (43) vol. viii, 1841, p. 189, pl. vi, f. 56; J. A. N. S., (214) vol. v, 1862, p. 343; Obs. Gen. Unio, (44) vol. iii, p. 27, pl. vi, f. 56; (215) vol. ix, p. 165.

M. Cambessedesii.
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M. capillaris.
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M. carino-costata.
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P. A. P. S., (37) vol. ii, 1841, p. 11; T. A. P. S., (43) vol. viii, 1841, p. 164, pl. v, f. 2; J. A. N. S., (214) vol. v, 1862, p. 323; Obs. Gen. Unio, (44) vol. iii, p. 2, pl. v, f. 2; (215) vol. ix, p. 145.

M. catenaria.
P. A. P. S., (35) vol. i, 1840, p. 289; T. A. P. S., (43) vol. viii, 1841, p. 190; Obs. Gen. Unio, (44) vol. iii, p. 28.

M. catenoides.
T. A. P. S., (43) vol. viii, 1840, p. 228, pl. vi, f. 60; Obs. Gen. Unio, (44) vol. iii, p. 66, pl. vi, f. 60.

M. Cincinnatiensis.
P. A. P. S., (30) vol. i, 1838, p. 66; T. A. P. S., (43) vol. viii, 1838, p. 190, pl. vi, f. 58; Obs. Gen. Unio, (44) vol. iii, p. 28, pl. vi, f. 58.

M. cincta.
P. Z. S., London, (59) vol. xviii, 1850, p. 183.

M. circincta.
P. A. P. S., (37) vol. ii, 1841, p. 15; T. A. P. S., (43) vol. viii, 1841, p. 187, pl. vi, f. 51; Obs. Gen. Unio, (44) vol. iii, p. 25, pl. vi, f. 25.

M. Clarkii.
P. A. P. S., (94) vol. v, 1852, p. 252; T. A. P. S., (81) vol. x, 1852, p. 297, pl. xxx, f. 4; Obs. Gen. Unio, (83) vol. v, p. 53, pl. xxx, f. 4.

M. clausa.
P. A. N. S., (198) vol. xiii, 1861, p. 120; J. A. N. S., (214) vol. v, 1862, p. 232; Obs. Gen. Unio, (215) vol. ix, p. 54.

M. clavæformis.
P. A. P. S., (37) vol. ii, 1841, p. 12; T. A. P. S., (43) vol. viii, 1841, pp. 164, 168, pl. v, f. 10; Obs. Gen. Unio, (44) vol. iii, pp. 2, 6, pl. v, f. 10.

Melania clavata.
T. A. P. S., (43) vol. viii, 1841, p. 168; Obs. Gen. Unio, (44) vol. iii, p. 6.

M. cochlea.
P. Z. S. London, (59) vol. xviii, 1850, pp. 196, 197.

M. cochlidium.
P. Z. S. London, (59) vol. xviii, 1850, p. 183.

M. cognata.
J. A. N. S., (243) vol. vi, 1866, p. 135; Obs. Gen. Unio, (244) vol. xi, p. 91.

M. columella.
P. A. P. S., (37) vol. ii, 1841, p. 13; T. A. P. S., (43) vol. viii, 1841, p. 179, pl. vi, f. 33; J. A. N. S., (214) vol. v, 1863, p. 317; Obs. Gen. Unio, (44) vol. iii, p. 17, pl. vi, f. 33; (215) vol. ix, p. 139.

M. concinna.
P. A. P. S., (37) vol. ii, 1841, p. 14; T. A. P. S., (43) vol. viii, 1841, p. 183, pl. vi, f. 42; J. A. N. S., (243) vol. vi, 1866, p. 138: Obs. Gen. Unio, (44) vol. iii, p. 21, pl. vi, f. 42; (244) vol. xi, p. 94.

M. conica.
T. A. P. S., (51) vol. ix, 1842, p. 28; J. A. N. S., (214) vol. v, 1862, pp. 224, 278; (243) vol. vi, 1866, p. 144; Obs. Gen. Unio, (56) vol. iv, p. 28; (215) vol. ix, pp. 46, 100; (244) vol. xi, p. 100.

M. consanguinea.
J. A. N. S., (214) vol. v, 1862, p. 263; Obs. Gen. Unio, (215) vol. ix, p. 85.

M. contracta.
P. Z. S., London, (59) vol. xviii, 1850, p. 182.

M. conulus.
P. Z. S., London, (59) vol. xviii, 1850, p. 190; J. A. N. S., (243) vol. vi, 1866, p. 123; Obs. Gen. Unio, (244) vol. xi, p. 79.

M. Coosaensis.
P. A. N. S., (198) vol. xiii, 1861, p. 118; J. A. N. S., (214) vol. v, 1862, pp. 234, 338, 343; Obs. Gen. Unio, (215) vol. ix, pp. 56, 160, 165.

M. copiosa.
P. A. N. S., (198) vol. xiii, 1861, p. 122; J. A. N. S., (214) vol. v, 1862, p. 239; Obs. Gen. Unio, (215) vol. ix, p. 61.

M. corneola.
J. A. N. S., (214) vol. v, 1862, p. 243; Obs. Gen. Unio, (215) vol. ix, p. 65.

M. cornuta.
P. Z. S., London, (59) vol. xviii, 1850, p. 194.

M. corrugata.
P. A. P. S., (37) vol. ii, 1841, p. 13; T. A. P. S., (43) vol. viii, 1841, p. 177, Corrigenda; Obs. Gen. Unio, (44) vol. iii, p. 15, pl. v, f. 30, Corrigenda.

M. costata.
P. A. N. S., (182) vol. xii, 1860, p. 186.

M. costellaris.
P. Z. S., London, (59) vol. xviii, 1850, pp. 184, 185.

M. costulata.
P. A. P. S., (37) vol. ii, 1841, p. 14; T. A. P. S., (43) vol. viii, 1841, p. 181, pl. vi, f. 39; J. A. N. S., (214) vol. v, 1862, pp. 315, 320, 321; Obs. Gen. Unio, (44) vol. iii, p. 19, pl. vi, f. 39; (215) vol. ix, pp. 137, 142, 143.

Melania crebri-costata.
P. A. P. S., (37) vol. ii, 1841, p. 13; T. A. P. S., (43) vol. viii, 1841, p. 179, pl. vi, f. 35; Obs. Gen. Unio, (44) vol. iii, p. 17, pl. vi, f. 35.

M. crebri-striata.
T. A. P. S., (55) vol. x, 1845, p. 91, pl. ix, f. 47; (214) vol. v, 1862, pp. 236, 244; Obs. Gen. Unio, (56) vol. iv, p. 91, pl. ix, f. 47; (215) vol. ix, pp. 58, 66.

M. crebrum.
P. Z. S., London, (59) vol. xviii, 1850, p. 193.

M. crenatella.
P. A. N. S., (178) vol. xii, 1860, p. 93; J. A. N. S., (214) vol. v, 1862, p. 268; Obs. Gen. Unio, (215) vol. ix, p. 90.

M. crenifera.
P. Z. S., London, (59) vol. xviii, 1850, p. 192.

M. crepera.
P. A. N. S., (198) vol. xiii, 1861, p. 123; J. A. N. S., (214) vol. v, 1862, p. 241; Obs. Gen Unio, (215) vol. ix, p. 63.

M. culta.
P. A. N. S., (198) vol. xiii, 1861, p. 121; J. A. N. S., (214) vol. v, 1862, p. 288; Obs. Gen. Unio, (215) vol. ix, p. 60.

M. Cumingii.
P. Z. S., London, (59) vol. xviii, 1850, p. 191.

M. Curreyana.
P. A. P. S., (37) vol. ii, 1841, p. 13; T. A. P. S., (43) vol. viii, 1841, p. 180, pl. vi, f. 36; Obs. Gen. Unio, (44) vol. iii, p. 18, pl. vi, f. 36.

M. curvata.
P. A. P. S., (48) vol. ii, 1842, p. 243; T. A. P. S. (51) vol. ix, 1842, p. 28; Obs. Gen. Unio, (56) vol. iv, p. 28.

M. dactylus.
P. Z. S. Lond., (59) vol. xviii, 1850, p. 191.

M. decora.
P. A. P. S., (37) vol. ii, 1841, p. 14; T. A. P. S., (43) vol. viii, 1841, p. 181, pl. vi, f. 38; J. A. N. S., (214) vol. v, 1862, p. 315; Obs. Gen. Unio, (44) vol. iii, p. 19, pl. vi, f. 38; (215) vol. ix, p. 137.

M. denticulata.
P. Z. S., London, (59) vol. xviii, 1850, p. 195.

M. depygis.
T. A. P. S., (43) vol. viii, 1841, p. 173; (55) vol. x, 1845, p. 87; J. A. N. S., (243) vol. vi, 1866, p. 134; Obs. Gen. Unio, (44) vol. iii, p. 11; (56) vol. iv, p. 87; (244) vol. xi, p. 90.

M. dermestoidea.
P. Z. S., London, (59) vol. xviii, 1850, p. 181.

M. Deshayesiana.
P. A. P. S., (48) vol. ii, 1842, p. 242; T. A. P. S., (51) vol. ix, 1842, p. 24; J. A. N. S., (214) vol. v, 1862, pp. 313, 314. 315, 316, 317, 318, 319, 323, 324, 345; Obs. Gen. Unio, (56) vol. iv, p. 24; (215) vol. ix, pp. 135, 136, 137, 138, 139, 140, 141, 145, 146, 167.

M. diadema.
P. Z. S., London, (59) vol. xviii, 1850, p. 194.

M. dilatata.
T. A. P. S., (43) vol. viii, 1841, pp. 171, 172; Obs. Gen. Unio, (44) vol. iii, pp. 9, 10.

M. dubia.
P. A. P. S., (37) vol. ii, 1841, p. 11.

Melania dubiosa.
T. A. P. S., (43) vol. viii, 1841, p. 166, pl. v, f. 6; Obs. Gen. Unio, (44) vol. iii, p. 4, pl. v, f. 6; (215) vol. ix, pp. 99, 121; J. A. N. S., (214) vol. v, 1862, pp. 277, 299.

M. Duttoniana.
P. A. P. S., (37) vol. ii, 1841, p. 15; T. A. P. S., (43) vol. viii, 1841, pp. 171, 188, pl. vi, f. 54; J. A. N. S., (214) vol. v, 1862, pp. 259, 314; Obs. Gen. Unio, (44) vol. iii, pp. 9, 26, pl. vi, f. 54; (215) vol. ix, pp. 81, 136.

M. ebenum.
P. A. P. S., (37) vol. ii, 1841, p. 12; T. A. P. S., (43) vol. viii, 1841, p. 166, pl. v, f. 7; (51) vol. ix, 1841, p. 19; Obs. Gen. Unio, (44) vol. iii, p. 4, pl. v, f. 7; (56) vol. iv, p. 19.

M. Edgariana.
P. A. P. S., (37) vol. ii, 1841, p. 14; T. A. P. S., (43) vol. viii, 1841, p. 180, pl. vi, f. 37; J. A. N. S., (214) vol. v, 1862, pp. 318, 321; Obs. Gen. Unio, (44) vol. iii, p. 18, pl. vi, f. 37; (215) vol. ix, pp. 140, 143.

M. elevata.
T. A. P. S., (55) vol. x, 1845, p. 89; Obs. Gen. Unio, (56) vol. iv, p. 89.

M. elliptica.
P. A. N. S., (198) vol. xiii, 1861, p. 118; J. A. N. S., (214) vol. v, 1862, pp. 226, 312; Obs. Gen. Unio, (215) vol. ix, pp. 48, 134.

M. elongata.
T. A. P. S., (15) vol. iv, 1831, p. 120, pl. xv, f. 29; J. A. N. S., (214) vol. v, 1866, pp. 148, 287; Obs. Gen. Unio, (21) vol. i, p. 130, pl. xv, f. 29; (215) vol. ix, p. 109; (244) vol. xi, p. 104.

M. episcopalis.
P. Z. S., London, (59) vol. xviii, p. 184.

M. exarata.
P. A. P. S., (37) vol. ii, 1841, p. 14; (48) vol. ii, 1842, p. 242; T. A. P. S., (43) vol. viii, 1841, p. 183, pl. vi, f. 44; (51) vol. ix, 1842, p. 24; Obs. Gen. Unio, (44) vol. iii, p. 21, pl. vi, f. 44; (56) vol. iv, p. 24.

M. excisa.
P. A. P. S., (48) vol. ii, 1842, p. 242; T. A. P. S., (51) vol. ix, 1842, pp. 25, 29; (55) vol. x, 1845, p. 93; Gbs. Gen. Unio, (56) vol. iv, pp. 25, 29, 93.

M. excurata.
T. A. P. S., (55) vol. x. 1845, p. 92; Obs. Gen. Unio, (56) vol. iv, p. 92.

M. expansa.
P. A. P. S., (48) vol. ii, 1842, p. 243; T. A. P. S., (51) vol. ix, 1842, p. 28; Obs. Gen. Unio, (56) vol. iv, p. 28.

M. fallax.
P. A. N. S., (198) vol. xiii, 1861, p. 120; J. A. N. S., (214) vol. v, 1862, p. 231; Obs. Gen. Unio, (215) vol. ix, p. 53.

M. fascinans.
P. A. N. S., (198) vol. xiii, 1861, p. 119.

M. fasciolata.
J. A. N. S., (243) vol. vi, 1866, pp. 122, 125; Obs. Gen. Unio, (244) vol. xi, pp. 78, 81.

M. ferruginea.
P. Z. S., London, (59) vol. xviii, 1850, p. 182.

Melania figurata.
J. A. N. S., (243) vol. vi, 1866, p. 125; Obs. Gen. Unio, (244) vol. xi, p. 81.

M. filum.
T. A. P. S., (55) vol. x, 1845, p. 88, pl. ix, f. 41; J. A. N. S., (214) vol. v, 1862, p. 284; Obs. Gen. Unio, (56) vol. iv, p. 88, pl. ix, f. 41; (215) vol. ix, p. 106.

M. flamigera.
J. A. N. S., (243) vol. vi, 1866, p. 125; Obs. Gen. Unio, (244) vol. xi, p. 81.

M. flammulata.
P. Z. S., London, (59) vol. xviii, 1850, p. 189.

M. Florentiana.
P. A. P. S., (37) vol. ii, 1841, p. 15; T. A. P. S (43) vol. viii, 1841, p. 188, pl. vi, f. 53; J. A. N. S., (214) vol. v, 1862, p. 260; Obs. Gen Unio, (44) vol. iii, p. 26, pl. vi, f. 53; (215) vol. ix, p. 82.

M. fœda.
P. Z. S., London, (59) vol. xviii, 1850, p. 180.

M. Foremanii.
P. A. P. S., (48) vol. ii, 1842, p. 242; T. A. P. S., (51) vol. ix, 1842, p. 27; Obs. Gen. Unio, (56) vol. iv, p. 27.

M. fraterna.
P. A. N. S., (114) vol. viii, 1856, p. 144; J. A. N. S., (243) vol. vi, 1866, p. 128, pl. xxii, f. 28; Obs. Gen. Unio, (244) vol. xi, p. 84, pl. xxii, f. 28.

M. fuliginosa.
P. A. P. S., (37) vol. ii, 1841, p. 12; T. A. P. S., (43) vol. viii, 1841, p. 170, pl. v, f. 17; J. A. N. S., (214) vol. v, 1862, p. 225; Obs. Gen. Unio, (44) vol. iii, p. 8, pl. v, f. 17; (215) vol. ix, p. 47.

M. fumea.
P. A. N. S., (198) vol. xiii, 1861, p. 123; J. A. N. S., (214) vol. v, 1862, p. 222; Obs. Gen. Unio, (215) vol. ix, p. 44.

M. furva.
P. A. P. S., (94) vol. v, 1852, p. 252; T. A. P. S., (81) vol. x, 1852, p. 299, pl. xxx, f. 7; Obs. Gen. Unio, (83) vol. v, p. 55, pl. xxx, f. 7.

M. fusiformis.
P. A. P. S., (37) vol. ii, 1841, p. 12; T. A. P. S., (43) vol. viii, 1841, pp. 164, 167, pl. v, f. 9; (81) vol. x, 1852, p. 302; J. A. N. S., (214) vol. v, v, 1862, pp. 308, 311; Obs. Gen. Unio, (44) vol. iii, pp. 2, 5, pl. v, f. 9; (83) vol. v, p. 58; (215) vol. ix, pp. 130, 133.

M. germana.
J. A. N. S., (214) vol. v, 1862, p. 223; (243) vol. vi, 1866, p. 153; Obs. Gen. Unio, (215) vol. ix, p. 45; (244) vol. xi, p. 109.

M. gibberosa.
J. A. N. S., (243) vol. vi, 1866, p. 150; Obs. Gen. Unio, (244) vol. xi, p. 106.

M. gibbosa.
P. A. P. S., (94) vol. v, 1852, p. 252; T. A. P. S., (81) vol. x, 1852, p. 301, pl. xxx, f. 12; Obs. Gen. Unio, (83) vol. v, p. 57, pl. xxx, f. 12.

M. glabra.
P. A. P. S., (40) vol. ii, 1841, p. 82; T. A. P. S., (51) vol. ix, 1841, p. 18; J. A. N. S., (243) vol. vi, 1866, p. 134; Obs. Gen. Unio, (56) vol. iv, p. 18; (244) vol. xi, p. 90.

Melania glandaria.
P. A. N. S., (198) vol. xiii, 1861, p. 120; J. A. N. S., (214) vol. v, 1862, p. 226; Obs. Gen. Unio, (215) vol. ix, p. 48.

M. globula.
P. A. P. S., (37) vol. ii, 1841, p. 12; T. A. P. S., (43) vol. viii, 1841, p. 174, pl. v, f. 22; Obs. Gen. Unio, (44) vol. iii, p. 12, pl. v, f. 22.

M. gracilior.
P. A. N. S., (198) vol. xiii, 1861, p. 118; J. A. N. S., (214) vol. v, 1862, pp. 235, 300; Obs. Gen. Unio, (215) vol. ix, pp. 57, 122.

M. gracilis.
P. A. P. S., (37) vol. ii, 1841, p. 12; T. A. P. S., (43) vol. viii, 1841, p. 168, pl. v, f. 11; Obs. Gen. Unio, (44) vol. iii, p. 6, pl. iii, f. 11; (215) vol. ix, pp. 102, 125, 133; J. A. N. S., (214) vol. v, 1862, pp. 280, 303, 311.

M. granifera.
P. Z. S., London, (59) vol. xviii, 1850, p. 196.

M. grata.
J. A. N. S., (214) vol. v, 1862, pp. 299, 301, 303, 314, 330; Obs. Gen. Unio, (215) vol. ix, pp. 121, 123, 125, 136, 152.

M. gratiosa.
P. A. N. S., (198) vol. xiii, 1861, p. 122; J. A. N. S., (214) vol. v, 1862, p. 241; Obs. Gen. Unio, (215) vol. ix, p. 63.

M. gravida.
J. A. N. S., (214) vol. v, 1862, p. 305; Obs. Gen. Unio, (215) vol. ix, p. 127.

M. Haincsiana.
P. A. N. S., (114) vol. viii, 1856, p. 144; J. A. N. S., (243) vol. vi, 1866, p. 122, pl. xxii, f. 18; Obs. Gen. Unio, (244) vol. xi, p. 78, pl. xxii, f. 18.

M. Haleiana.
T. A. P. S., (55) vol. x, 1845, pp. 86, 87, pl. ix, f. 35; Obs. Gen. Unio, (56) vol. iv, pp. 86, 87, pl. ix, f. 35.

M. harpa.
T. A. P. S., (55) vol. x, 1845, p. 90, pl. ix, f. 45; Obs. Gen. Unio, (56) vol. iv, p. 90, pl. ix, f. 45.

M. Hartmaniana.
P. A. N. S., (198) vol. xiii, 1861, p. 117; J. A. N. S., (214) vol. v, 1862, pp. 218, 233; Obs. Gen. Unio, (215) vol. ix, pp. 49, 55.

M. hastula.
P. Z. S., London, (59) vol. xviii, 1850, p. 189.

M. Haysiana.
P. A. P. S., (48) vol. ii, 1842, p. 242; T. A. P. S., (51) vol. ix, 1842, p. 25; (55) vol. x, 1845, pp. 90, 91; J. A. N. S., (214) vol. v, 1862, pp. 219, 235; Obs. Gen. Unio, (56) vol. iv, pp. 25, 90, 91; (215) vol. ix, pp. 41, 57.

M. Hildrethiana.
P. A. P. S., (37) vol. ii, 1841, p. 11; T. A. P. S., (43) vol. viii, 1841, p. 164, pl. v, f. 1; Obs. Gen. Unio, (44) vol. iii, p. 2, pl. v, f. 1.

M. Holstonia.
P. A. P. S., (37) vol. ii, 1841, p. 15; T. A. P. S., (43) vol. viii, 1841, p. 189, pl. vi, f. 55; J. A. N. S., (214) vol. v, 1862, p. 339; Obs. Gen. Unio, (44) vol. iii, p. 27, pl. vi, f. 55; (215) vol. ix, p. 161.

Melania Housei.
P. A. N. S., (144) vol. viii, 1856, p. 144; J. A. N. S., (243) vol. vi, 1866, p. 125, pl. xxii, f. 22; Obs. Gen. Unio, (244) vol. xi, p. 81, pl. xxii, f. 22.

M. Hydei.
J. A. N. S., (214) vol. v, 1862, p. 345; Obs. Gen. Unio, (215) vol. ix, p. 167.

M. impressa.
P. A. P. S., (40) vol. ii, 1841, p. 83; T. A. P. S., (51) vol. ix, 1841, p. 19; (55) vol. x, 1845, p. 91; J. A. N. S., vol. v, 1862, pp. 236, 244; Obs. Gen. Unio, (56) vol. iv, pp. 19, 91; (215) vol. ix, pp. 58, 66.

M. impura.
P. Z. S., London, (59) vol. xviii, 1850, p. 182.

M. indefinita.
P. Z. S., London, (59) vol. xviii, 1850, p. 187.

M. inflata.
T. A. P. S., (27) vol. vi, 1834, p. 17, pl. xxiii, f. 98; (43) vol. viii, 1841, pp. 171, 172; (81) vol. x, 1852, p. 301; Obs. Gen. Unio, (29) vol. ii, p. 17, pl. xxiii, f. 98; (44) vol. iii, pp. 9, 10; (83) vol. v, p. 57.

M. infrafasciata.
J. A. N. S., (214) vol. v, 1862, pp. 291, 292; Obs. Gen. Unio, (215) vol. ix, pp. 113, 114.

M. inhonesta.
J. A. N. S., (243) vol. vi, 1866, p. 125; Obs. Gen. Unio, (244) vol. xi, p. 81.

M. isogoma.
T. A. P. S., (51) vol. ix, 1841, p. 16; Obs. Gen. Unio, (56) vol. iv, p. 16.

M. iostoma.
J. A. N. S., (214) vol. v, 1862, p. 225; Obs. Gen. Unio, (215) vol. ix, p. 47.

M. Jayana.
P. A. P. S., (40) vol. ii, 1841, p. 83; T. A. P. S., (51) vol. ix, 1841, p. 20; J. A. N. S., (243) vol. vi, 1866, p. 146; Obs. Gen. Unio, (56) vol. iv, p. 20; (244) vol. xi, p. 102.

M. juncea.
P. Z. S. Lond., (59) vol. xviii, 1850, p. 182.

M. Kirtlandiana.
P. A. P. S., (37) vol. ii, 1841, p. 11; T. A. P. S., (43) vol. viii, 1841, p. 165, pl. v, f. 4; J. A. N. S., (214) vol. v, 1862, p. 296; Obs. Gen. Unio, (44) vol. iii, p. 3, pl. v, f. 4; (215) vol. ix, p. 118.

M. lævis.
T. A. P. S., (43) vol. viii, 1842, Corrigenda; J. A. N. S., (214) vol. v, 1862, p. 297; Obs. Gen. Unio, (44) vol. iii, Corrigenda; (215) vol. ix, p. 119.

M. laevigata.
P. A. P. S., (37) vol. ii, 1841, p. 11; T. A. P. S., (43) vol. viii, 1841, p. 165, pl. v, f. 3, also Corrigenda; Obs. Gen. Unio, (44) vol. iii, p. 3, pl. v, f. 3, also Corrigenda.

M. laevissima.
P. Z. S. Lond., (59) vol. xviii, 1850, p. 179.

M. lancea.
P. Z. S. Lond., (59) vol. xviii, 1850, p. 183.

M. laqueata.
T. A. P. S., (43) vol. viii, 1841, p. 181; J. A. N. S., (214) vol. v, 1862, p. 314; Obs. Gen. Unio, (44) vol. iii, p. 19; (215) vol. ix, p. 136.

Melania Largillierti.
J. A. N. S., (243) vol. vi, 1866, pp. 127, 128; Obs. Gen. Unio, (244) vol. xi, pp. 83, 84.

M. lateritia.
P. Z. S., London, (59) vol. xviii, 1850, p. 196; J. A. N. S., (243) vol. vi, 1866, p. 123; Obs. Gen. Unio, (244) vol. xi, p. 79.

M. Lecontiana.
P. A. P. S., (37) vol. ii, 1841, p. 13; T. A. P. S., (43) vol. viii, 1841, p. 177, pl. v, f. 29; J. A. N. S., (214) vol. v, 1862, p. 331; Obs. Gen. Unio, (44) vol. iii, p. 15, pl. v, f. 29; (215) vol. ix, p. 153.

M. Lewisii.
P. A. N. S., (198) vol. xiii, 1861, p. 118; J. A. N. S., (214) vol. v, 1862, p. 243; Obs. Gen. Unio, (215) vol. ix, p. 65.

M. ligata.
J. A. N. S., (214) vol. v, 1862, p. 289; Obs. Gen. Unio, (215) vol. ix, p. 111.

M. lita.
P. A. N. S., (198) vol. xiii, 1861, p. 121; J. A. N. S., (214) vol. v, 1862, p. 240; Obs. Gen. Unio, (215) vol. ix, p. 62.

M. luteola.
P. A. N. S., (198) vol. xiii, 1861, p. 119.

M. lugubris.
T. A. P. S., (55) vol. x, 1845, p. 84, pl. ix, f. 29; Obs. Gen. Unio, (56) vol. iv, p. 84, pl. ix, f. 29.

M. Luzoniensis.
P. Z. S. London, (59) vol. xviii, 1850, p. 188.

M. lyræformis.
P. A. N. S., (144) vol. viii, 1856, p. 145; J. A. N. S., (243) vol. vi, 1866, p. 126, pl. xxii, f. 25; Obs. Gen. Unio, (244) vol. xi, p. 82, pl. xxii, f. 25.

M. Manillaensis.
J. A. N. S., (243) vol. vi, 1866, p. 126, pl. xxii, f. 24; Obs. Gen. Unio, (244) vol. xi, p. 82, pl. xxii, f. 24.

M. Mauiensis.
P. A. N. S., (144) vol. viii, 1856, p. 145; J. A. N. S., (243) vol. vi, 1866, p. 123, pl. xxii, f. 19; Obs. Gen. Unio, (244) vol. xi, p. 79, pl. xxii, f. 19.

M. maxima.
P. Z. S., London, (59) vol. xviii, 1850, p. 187.

M. mellea.
P. A. N. S., (198) vol. xiii, 1861, p. 120; J. A. N. S., (214) vol. v, 1862, pp. 224, 305; Obs. Gen. Unio, (215) vol. ix, pp. 46, 127.

M. Menkiana.
P. A. P. S., (48) vol. ii, 1842, p. 242; T. A. P. S., (51) vol. ix, 1842, p. 24; Obs. Gen. Unio, (56) vol. iv, p. 24.

M. microstoma.
P. Z. S., London, (59) vol. xviii, 1850, pp. 186, 187; T. A. P. S., (81) vol. x, 1852, p. 295; Obs. Gen. Unio, (83) vol. v, p. 51.

M. midas.
P. A. N. S., (198) vol. xiii, 1861, p. 119; J. A. N. S., (214) vol. v, 1862, p. 233; (243) vol vi, 1866, p. 150; Obs Gen. Unio, (215) vol. ix, p. 55; (244) vol. xi, p. 106.

Melania Mindoriensis.
P. Z. S., London, (59) vol. xviii, 1850, p. 187; J. A. N. S., (243) vol. vi, 1866, p. 123; Obs. Gen. Unio, (244) vol. xi, p. 79.

M. modesta.
T. A. P. S., (55) vol. x, 1845, p. 86, pl. ix, f. 34; J. A. N. S., (214) vol. v, 1862, p. 277; Obs. Gen. Unio, (56) vol. iv, p. 86, (215) vol. ix, p. 99.

M. modicella.
P. Z. S., London, (59) vol. xviii, 1850, p. 196.

M. monozonalis.
P. A. P. S., (37) vol. ii, 1841, p. 13; T. A. P. S., (43) vol. viii, 1841, p. 178, pl. vi, f. 31; Obs. Gen. Unio, (44) vol. iii, p. 16, pl. vi, f. 31.

M. mucronata.
P. A. N. S., (198) vol. xiii, 1861, p. 119; J. A. N. S., (214) vol. v, 1862, p. 277; Obs. Gen. Unio, (215) vol. ix, p. 99.

M. multilineata.
T. A. P. S., (27) vol. vi, 1836, p. 93; Obs. Gen. Unio, (29) vol. ii, p. 93.

M. multistriata.
T. A. P. S., (55) vol. x, 1845, p. 90; Obs. Gen. Unio, (56) vol. iv, p. 90.

M. Myersiana.
P. A. N. S., (144). vol. viii, 1856, p. 145; J. A. N. S., (243) vol. vi, 1866, pp. 124, 126, 127; pl. xxii, f. 21; Obs. Gen. Unio, (244) vol. xi, pp. 80, 81, 82, pl. xxii, f. 21.

M. nana.
P. Z. S. Lond., (59) vol. xviii, 1850, p. 192.

M. nassula.
T. A. P. S., (43) vol. viii, 1841, p. 190; Obs. Gen. Unio, (44) vol. iii, p. 28.

M. neglecta.
J. A. N. S., (214) vol. v, 1862, p. 273; Obs. Gen. Unio, (215) vol. ix, p. 95.

M. Newberryi.
P. A. N. S., (178) vol. xii, 1860, p. 93; J. A. N. S., (214) vol. v, 1862, p. 318; Obs. Gen. Unio, (215) vol. ix, p. 140.

M. Newcombii.
P. A. N. S., (144) vol. viii, 1856, p. 145; J. A. N. S., (243) vol. vi, 1866, pp. 122, 123, pl. xxii, f. 17; Obs. Gen. Unio, vol. xi, pp. 78, 79, pl. xxii, f. 17.

M. Niagarensis.
P. A. P. S., (37) vol. ii, 1841, p. 12; T. A. P. S., (43) vol. viii, 1841, p. 173, pl. v, f. 21; J. A. N. S., (214) vol. v, 1862, pp. 276, 307; (243) vol. vi, 1866, p. 135; Obs. Gen. Unio, (44) vol. iii, p. 11; (215) vol. ix, pp. 98, 129; (244) vol. xi, p. 91.

M. Nickliniana.
P. A. P. S., (37) vol. ii, 1841, p. 12; T. A. P. S., (43) vol. viii, 1841, p. 171, pl. v, f. 18; (55) vol. x, 1845, p. 85; (81) vol. x, 1852, p. 299; J. A. N. S., (214) vol. v, 1862, p. 309; (243) vol. vi, 1866, p. 137; Obs. Gen. Unio, (44) vol. iii, p. 9, pl. v, f. 18; (56) vol. iv, p. 85. (83) vol. v, p. 55; (215) vol. ix, p. 131; (244) vol. xi, p. 93.

M. nigrina.
P. A. N. S., (109) vol. viii, 1856, p. 80; J. A. N. S., (214) vol. v, 1862, pp. 300, 334; Obs. Gen. Unio, (215) vol. ix, pp. 122, 156.

Melania Ningpoensis.
P. A. N. S., (144) vol. viii. 1856, p. 144; J. A. N. S., (243) vol. vi, 1866, p. 124, pl. xxii, f. 20; Obs. Gen. Unio, (244) vol. xi, p. 80, pl. xxii, f. 20.

M. nitens.
T. A. P. S., (43) vol. viii, 1841, p. 182, pl. vi, f. 40; J. A. N. S., (214) vol. v, 1862, p. 304; Obs. Gen. Unio, (44) vol. iii, p. 20, pl. vi, f. 40; (215) vol. ix, p. 126.

M. nitida.
P. A. P. S., (37) vol. ii, 1841, p. 14.

M. nobilis.
T. A. P. S., (55) vol. x, 1845, p. 91, pl. ix, f. 48; J. A. N. S., (214) vol. v, 1862, p. 346; Obs. Gen. Unio, (56) vol. iv, p. 91, pl. ix, f. 48; (215) vol. ix, p. 168.

M. nodulosa.
P. A. P. S., (37) vol. ii, 1841, p. 15; T. A. P. S., (43) vol. viii, 1841, p. 190, pl. vi, f. 57; Obs. Gen. Unio, (44) vol. iii, p. 28, pl. vi, f. 57.

M. nubila.
P. A. N. S., (198) vol. xiii, 1861, p. 118; J. A. N. S., (214) vol. v, 1862, p. 236; Obs. Gen. Unio, (215) vol. ix, p. 58.

M. oblita.
P. A. P. S., (94) vol. v, 1852, p. 252. T. A. P. S., (81) vol. x, 1852, p. 298, pl. xxx, f. 6; Obs. Gen. Unio, (83) vol. v, p. 54, pl. xxx, f. 6.

M. obovata.
J. A. N. S., (214) vol. v, 1862, pp. 257, 263; Obs. Gen. Unio, (215) vol. ix, pp. 79, 85.

M. obruta.
P. Z. S., London, (59) vol. xviii, 1850, p. 190.

M. obtusa.
P. A. P. S., (37) vol. ii, 1841, p. 13; T. A. P. S., (43) vol. viii, 1841, p. 176, pl. v, f. 28; J. A. N. S., (243) vol. vi, 1866, p. 138; Obs. Gen. Unio, (44) vol. iii, p. 14, pl. v, f. 28; (244) vol. xi, p. 94.

M. occata.
P. A. N. S., (109) vol. viii, 1856, p. 81; J. A. N. S., (243) vol. vi, 1866, p. 155; Obs. Gen. Unio, (244) vol. xi, p. 111.

M. occidentalis.
P. A. P. S., (37) vol. ii, 1841, p. 12; T. A. P. S., (43) vol. viii, 1841, p. 172, pl. v, f. 20; Obs. Gen. Unio, (44) vol. iii, p. 10, pl. v, f. 20.

M. Ocoécnsis.
P. A. P. S., (37) vol. ii, 1841, p. 12; T. A. P. S., (43) vol. viii, 1841, pp. 169, 170, pl. v, f. 13, (81) vol. x, 1852, p. 298; J. A. N. S., (214) vol. v, 1862, pp. 277, 290; Obs. Gen. Unio, (44) vol. iii, pp. 7, 8, pl. v, f. 13; (83) vol. v, p. 54; (215) vol. ix, pp. 99, 112.

M. oliva.
P. A. P. S., (48) vol. ii, 1842, p. 242; T. A. P. S., (51) vol. ix, 1842, p. 27; Obs. Gen. Unio, (56) vol. iv, p. 27.

M. olivula.
T. A. P. S., (43) vol. viii, 1841, p. 188; J. A. N. S., (214) vol. v, 1862, p. 227; Obs. Gen. Unio, (44) vol. iii, p. 26; (215) vol. ix, p. 49.

M. oppugnata.
P. A. P. S., (94) vol. v, 1852, p. 252; T. A. P. S., (81) vol. x, 1852, p. 300, pl. xxx, f. 9; Obs. Gen. Unio, (83) vol. v, p. 56, pl. xxx, f. 9; (215) vol. ix, p. 55.

Melania orbicula.
P. A. N. S., (198) vol. xiii, 1861, p. 118; J. A. N. S., (214) vol. v, 1862, p. 238; Obs. Gen. Unio, 215, vol. ix, p. 60.

M. Ordiana.
P. A. P. S., (48) vol. ii, 1842, p. 242; T. A. P. S., (51) vol. ix, 1842, p. 26; Obs. Gen. Unio, (56) vol. iv, p. 26.

M. Ordii.
P. A. P. S., (214) vol. v, 1862, p. 293; Obs. Gen. Unio, (215) vol. ix, p. 115.

M. ovalis.
P. A. P. S. (48) vol. ii, 1842, p. 242; T. A. P. S., (51) vol. ix, 1842, p. 25; J. A. N. S., (214) vol. v, 1862, pp. 226, 229, 239; Obs. Gen. Unio, (56) vol. iv, p. 25; (215) vol, ix, pp. 48, 51, 61.

M. ovoidea.
T. A. P. S., (55) vol. x, 1845, p. 87, pl. ix, f. 38; J. A. N. S., (214) vol. v, 1862, p. 308; Obs. Gen. Unio, (56) vol. iv, p. 87, pl. ix, f. 38; (215) vol. ix, p. 130.

M. pagoda.
P. Z. S. Lond., (59) vol. xviii, 1850, p. 197.

M. pallescens.
T. A. P. S., (55) vol. x, 1845, p. 89, pl. ix, f. 43; J. A. N. S., (243) vol. vi, 1866, p. 130; Obs. Gen. Unio, (56) vol. iv, p. 89, pl. ix, f. 43; (244) vol xi, p. 86.

M. paula.
P. A. N. S., (198) vol. xiii, 1861, p. 122; J. A. N. S., (214) vol. v, 1862, p. 244; Obs. Gen. Unio, (215) vol. ix, p. 66.

M. percarinata.
T. A. P. S., (81) vol. x, 1852, p. 299; Obs. Gen Unio, (83) vol. v, p. 55.

M. perfusca.
P. A. P. S., (40) vol. ii, 1841, p. 82; T. A. P. S., (51) vol. ix, 1841, p. 18; J. A. N. S., (214) vol. v. 1862, pp. 304, 332; Obs. Gen. Unio, (56) vol. iv, p. 18; (215) vol. ix, pp. 126, 154.

M. pergrata.
P. A. N. S., (198) vol. xiii, 1861, p. 122.

M. pernodosa.
T. A. P. S., (55) vol. x, 1845, p. 92, pl. ix, f. 49; J. A. N. S., (243) vol. vi, 1866, p. 146; Obs. Gen. Unio, (56) vol. iv, p. 92, pl. ix, f. 49; (244) vol. xi, p. 102.

M. perstriata.
P. A. P. S., (94) vol. v, 1852, p. 252; T. A. P. S., (81) vol. x, 1852, p. 296, pl. xxx, f. 2; Obs. Gen. Unio, (83) vol. v, p. 52, pl. xxx, f. 2.

M. picta.
P. A. P. S., (40) vol. ii, 1841, p. 82; T. A. P. S., (51) vol. ix, 1841, p. 19, 1842, p. 25; Obs. Gen. Unio, (56) vol. iv, pp. 19, 25.

M. pilula.
P. A. P. S., (37) vol. ii, 1841, p. 15; T. A. P. S., (43) vol. viii, 1841, p. 186, pl. vi, f. 50; Obs. Gen. Unio, (44) vol. iii, p. 24, pl. vi, f. 50.

M. pinguis.
T. A. P. S., (81) vol. x, 1852, p. 301, pl. xxx, f. 11; P. A. P. S., (94) vol. v, 1852, p. 252; J. A. N. S., (214) vol. v, 1862, p. 281; Obs. Gen. Unio, (83) vol. v, p. 57, pl. xxxv, f. 11; (215) vol. ix, p. 103

Melania planensis.
P. A. N. S., (140) vol. x, 1858, p. 118; J. A. N. S., (243) vol. vi, 1866, p. 127, pl. xxii, f. 26; Obs. Gen. Unio, (244) vol. xi. p 83, pl. xxii, f. 26.

M. plicata.
T. A. P. S., (27) vol. vi, 1835, p. 20, pl. xxiii, f. 95; (51) vol. ix, 1842, p. 24; Obs. Gen. Unio, (29) vol. ii, p. 20, pl. xxii, f. 95; (56) vol. iv, p. 24; P. A. P. S., (48) vol. ii, 1842, p. 242.

M. plicatula.
P. A. P. S., (37) vol. ii, 1841, p. 14; (48) vol. ii, 1842, p. 242; T. A. P. S., (43) vol. viii, 1841, p. 182, pl. vi, f. 41; (51) vol. ix, 1842, p. 24; Obs. Gen. Unio, (44) vol. iii, p. 20, pl. vi, f. 41; (56) vol. iv, p. 24.

M. plicifera.
T. A. P. S., (27) vol. vi, 1836, p. 93, pl. xxiii, f. 90; Obs. Gen. Unio, (29) vol. ii, p. 93, pl. xxiii, f. 90.

M. polygonata.
P. Z. S., London, (59) vol. xviii, 1850, p. 195.

M. porcata.
J. A. N. S., (243) vol. vi, 1866, p. 123; Obs. Gen. Unio, (244) vol. xi, p. 79.

M. Postellii.
P. A. N. S., (143) vol. x, 1858, p. 166.

M. Potosiensis.
P. A. P. S., (37) vol. ii, 1841, p. 14; T. A. P. S., (43) vol. viii, 1841, p. 184, pl. vi, f. 45; Obs. Gen. Unio, (44) vol. iii, p. 22, pl. vi, f. 45.

M. prærosa.
T. A. P. S., (51) vol. ix, 1841, p. 14; Obs. Gen. Unio, (56) vol. iv, p. 14.

M. prassinata.
J. A. N. S., (214) vol. v, 1862, p. 271; Obs. Gen. Unio, (215) vol. ix, p. 93.

M. producta.
P. A. P. S., (48) vol. ii, 1842, p. 243; T. A. P. S., (51) vol. ix, 1842, p. 28; Obs. Gen. Unio, (56) vol. iv, p. 28.

M. propria.
P. A. N. S., (198) vol. xiii, 1861, pp. 118, 123; J. A. N. S., (214) vol. v, 1862, pp. 228, 230; Obs. Gen. Unio, (215) vol. ix, pp. 50, 52.

M. propinqua.
P. A. N. S., (198) vol. xiii, 1861, p. 119; J. A. N. S., (214) vol. v, 1862, p. 234; Obs. Gen. Unio, (215) vol. ix, p. 56.

M. proteus.
T. A. P. S., (55) vol. x, 1845, p. 83, pl. ix, f. 28; J. A. N. S., (214) vol. v, 1862, pp. 228, 334, 336, 353; Obs. Gen. Unio, (56) vol. iv, p. 83, pl. ix, f. 28; (215) vol. ix, p. 50.

M. proxima.
J. A. N. S., (214) vol. v, 1862, pp. 334, 336, 353; Obs. Gen. Unio, (215) vol. ix, pp. 156, 158, 175.

M. pudica.
P. A. N. S., (198) vol. xiii, 1861, p. 120; J. A. N. S., (214) vol. v, 1862, p. 222; Obs. Gen. Unio, (215) vol. ix, p. 44.

M. pumila.
P. A. N. S., (198) vol. xiii, 1861, p. 119; T. A. P. S., (55) vol. x, 1845, p. 86, pl. ix, f. 36; J. A. N. S., (214) vol. v, 1862, pp. 266, 279; Obs. Gen. Unio, (56) vol. iv, p. 86, pl. ix, f. 36; (215) vol. ix, pp. 88, 101

Melania pumicea.
J. A. N. S., (214) vol. v, 1862, p. 232, pl. xxxiv, f. 27; Obs. Gen. Unio, (215) vol. ix, p. 54, pl. xxxiv, f. 27.

M. pupæformis.
J. A. N. S., (214) vol. v, 1862, p. 232; Obs. Gen. Unio, (215) vol. ix, p. 54.

M. pupoidea.
J. A. N. S., (214) vol. v, 1862, pp. 229, 234; (243) vol. vi, 1866, p. 130; Obs. Gen. Unio, (215) vol. ix, pp. 51, 56; (244) vol. xi, p. 86.

M. purpurea.
P. A. N. S., (198) vol. xiii, 1861, p. 120; J. A. N. S., (214) vol. v, 1862, p. 225; Obs. Gen. Unio, (215) vol. ix, p. 47.

M. pyrenella.
J. A. N. S., (214) vol. v, 1862, p. 270; Obs. Gen. Unio, (215) vol. ix, p. 92.

M. quadrivittata.
P. A. N. S., (198) vol. xiii, 1861, p. 119; J. A. N. S., (214) vol. v, 1862, p. 227; Obs. Gen. Unio, (215) vol. ix, p. 49.

M. rara.
P. A. N. S., (198) vol. xiii, 1861, p. 121; J. A. N. S., (214) vol. v, 1862, p. 220; Obs. Gen. Unio, (215) vol. ix, p. 42.

M. recta.
P. Z. S., London, (59) vol. xviii, 1850, p. 185.

M. regularis.
P. A. P. S., (37) vol. ii, 1841, p. 12; T. A. P. S., (43) vol. viii, 1841, p. 170, pl. v, f. 16; (55) vol. x, 1845, p. 85; J. A. N. S., (214) vol. v, 1862, p. 272; Obs. Gen. Unio, (44) vol. iii, p. 8, pl. v, f. 16; (56) vol. iv, p. 85; (215) vol. ix, p. 94.

M. reticulata.
P. Z. S., London, (59) vol. xviii, 1850, p. 193.

M. rhombica.
J. A. N. S., (214) vol. v, 1862, p. 244; (243) vol. vi. 1866, pp. 130, 132; Obs. Gen. Unio, (215) vol. ix, p. 66; (244) vol. xi, pp. 86, 88.

M. robusta.
P. A. P. S., (40) vol. ii, 1841, p. 83; T. A. P. S., (51) vol. ix, 1841, p. 19; J. A. N. S., (214) vol. v, 1862, p. 219, 239; Obs. Gen. Unio. (56) vol. iv, p. 19; (215) vol. ix, pp. 41, 61.

M. Rogersii.
T. A. P. S., (43) vol. viii, 1841, pp. 171, 172; Obs. Gen. Unio, (44) vol. iii, pp. 9, 10.

M. rubicunda.
P. A. N. S., (198) vol. xiii, 1861, p. 118; J. A. N. S., (214) vol. v, 1862, p. 235; Obs. Gen. Unio, (215) vol. ix, p. 57.

M. rubida.
P. A. N. S., (144) vol. viii, 1856, p. 145; J. A. N. S., (243) vol. vi, 1866, p. 121, pl. xxii, f. 16; Obs. Gen. Unio, (244) vol. xi, p. 77, pl. xxii, f. 16.

M. rudis.
P. Z. S., London, (59) vol. xviii, 1850, pp. 186, 187; T. A. P. S., (81) vol. x, 1852, p. 295; Obs. Gen. Unio, (83) vol. v, p. 51.

M. rufa.
P. A. P. S., (37) vol. ii, 1841, p. 12; T. A. P. S., (43) vol. viii, 1841, p. 167, pl. v, f. 8, also Corrigenda; (51) vol. ix, 1841, p. 18; Obs. Gen. Unio, (44) vol. iii, p. 5, pl. v, f. 8, also Corrigenda; (56) vol. iv, p. 18.

Melania rufescens.
T. A. P. S.. (43) vol. viii, 1842, Corrigenda; J. A. N. S., (243) vol. vi, 1860, p. 131; Obs. Gen. Unio, (44) vol. iii, Corrigenda; (244) vol. xi, p. 87.

M. rugosa.
T. A. P. S., (43) vol. viii, 142, Corrigenda; J. A. N. S., (214) vol. v, 1862, p. 328; Obs. Gen. Unio, (44) vol. iii, Corrigenda; (215) vol. ix, p. 150.

M. Saffordii.
P. A. P. S., (94) vol. v, 1852, p. 252; T. A. P. S., (81) vol. x, 1852, p. 300, pl. xxx, f. 10; J. A. N. S., (214) vol. v, 1862, p. 330; Obs. Gen. Unio, (83) vol. v, p. 56, pl. xxx, f. 10; (215) vol. ix, p. 152.

M. salebrosa.
J. A. N. S., (214) vol. v, 1862, pp. 260, 261; Obs. Gen. Unio, (215) vol. ix, pp. 82, 83.

M. Sayi.
J. A. N. S., (214) vol. v, 1862, p. 276; Obs. Gen. Unio, (215) vol. ix, p. 98.

M. scabra.
P. Z. S. London, (59) vol. xviii, 1850, p. 194.

M. scilicula.
J. A. N. S., (243) vol. vi, 1866, p. 126; Obs. Gen. Unio, (244) vol. xi, p. 82.

M. sculptilis.
P. A. N. S., (94) vol. v, 1852, p. 252; T. A. P. S., (81) vol. x, 1852, p. 297, pl. xxx, f. 3; Obs. Gen. Unio, (83) vol. v, p. 53, pl. xxx, f. 3; (244) vol. xi, p. 104; J. A. N. S., (243) vol. vi, 1866, p. 148.

M. Sellersiana.
P. A. P. S., (94) vol. v, 1852, p. 252; T. A. P. S., (81) vol. x, 1852, p. 299, pl. xxx, f. 8; J. A. N. S., (214) vol. v, 1862, p. 328; Obs. Gen. Unio, (83) vol. v, p. 55, pl. xxx, f. 8; (215) vol. ix, p. 150.

M. semicarinata.
T. A. P. S., (55) vol. x, 1845, p. 89; J. A. N. S., (214) vol. v, 1862, p. 302; Obs. Gen. Unio, (56) vol. iv, p. 89; (215) vol. ix, p. 124.

M. semigranulata.
J. A. N. S., (214) vol. v, 1862, p. 260; Obs. Gen. Unio, (215) vol. ix, p. 82.

M. seminalis.
P. A. N. S., (109) vol. viii, 1856, p. 81; J. A. N. S., (243) vol. vi, 1866, pp. 155, 156; Obs. Gen. Unio, (244) vol. xi, pp. 111, 112.

M. semiplicata.
P. Z. S., London, (59) vol. xviii, 1850, p. 187.

M. Shastaensis.
P. A. N. S., (109) vol. viii, 1856, p. 80.

M. Shelbycnsis.
P. A. N. S., (198) vol. xiii, 1861, p. 121.

M. Showalterii.
P. A. N. S., (198) vol. xiii, 1861, p. 120; J. A. N. S., (214) vol. v, 1862, p. 220; Obs. Gen. Unio, (215) vol. ix, p. 42.

M. silicula.
J. A. N. S., (214) vol. v, 1862, p. 302; Obs. Gen. Unio, (215) vol. ix, p. 124.

M. simplex.
T. A. P. S., (43) vol. viii, 1841, pp. 166, 169; P. Z. S., London, (59) xviii, 1850, p. 182; J. A. N. S., (214) vol. v, 1862, p. 278; Obs. Gen. Unio, (44) vol. iii, pp. 4, 7; (215) vol. ix, p. 100.

Melania sobria.
P. Z. S., London, (59) vol. xviii, 1850, p. 181.

M. solida.
T. A. P. S., (55) vol. x, 1845, p. 83, pl. ix, f. 27; J. A. N. S., (214) vol. v, 1862, p. 266; Obs. Gen. Unio, (56) vol. iv, p. 83, pl. ix, f. 27; (215) vol. ix, p. 88.

M. solidula.
P. A. N. S., (198) vol. xiii, 1861, p. 121; J. A. N. S., (214) vol. v, 1862, p. 231, Obs. Gen. Unio, (215) vol. ix, p. 53.

M. sordida.
P. A. P. S., (37) vol. ii, 1841, p. 12; T. A. P. S., (43) vol. viii, 1841, p. 170, pl. v, f. 15; (81) vol. x, 1852, p. 301; Obs. Gen. Unio, (44) vol. iii, p. 8, pl. v, f. 15; (83) vol. v, p. 57.

M. spinalis.
T. A. P. S., (55) vol. x, 1845, p. 89, pl. ix, f. 42; Obs. Gen. Unio, (56) vol. iv, p. 89, pl. ix, f. 42.

M. spinulosa.
P. Z. S., London, (59) vol. xviii, 1850, p. 195; J. A. N. S., (214) vol. v, 1862, p. 340; Obs. Gen. Unio, (215) vol. ix, p. 162.

M. spurca.
T. A. P. S., (55) vol. x, 1845, p. 85, pl. ix, f. 31; Obs. Gen. Unio, (56) vol. iv, p. 85, pl. ix, f. 31.

M. straminea.
P. A. N. S., (198) vol. xiii, 1861, p. 121; J. A. N. S., (214) vol. v, 1862, p. 227; Obs. Gen. Unio, (215) vol. ix, p. 49.

M. striata.
P. A. P. S., (37) vol. ii, 1841, p. 15; T. A. P. S., (43) vol. viii, 1842, p. 186, pl. vi, f. 49, also Corrigenda; Obs. Gen. Unio, (44) vol. iii, p. 24, pl. vi, f, 49, also Corrigenda.

M. striatula.
T. A. P. S., (43) vol. viii, 1842, Corrigenda; (81) vol. x, 1852, p. 297; J. A. N. S., (214) vol. v, 1862, p. 268; Obs. Gen. Unio, (44) vol. iii, Corrigenda; (83) vol. v, p. 53; (215) vol. ix, p. 90.

M. strigosa.
P. A. P. S., (37) vol. ii, 1841, p. 13; T. A. P. S., (43) vol. viii, 1841, p. 175, pl. v, f. 24; J. A. N. S., (214) vol. v, 1862, pp. 274, 275, 294, 298; (243) vol. vi, 1866, p. 140; Obs. Gen. Unio, (44) vol. iii, p. 13, pl. v, f. 24; (215) vol. ix, pp. 96, 97, 116, 120; (244) vol. xi, p. 96.

M. suavis.
P. A. N. S., (198) vol. xiii, 1861, p. 120; J. A. N. S., (214) vol. v, 1862, pp. 229, 330; Obs. Gen. Unio, (215) vol. ix, pp. 51, 152.

M. subangulata.
J. A. N. S., (214) vol. v, 1862, p. 330; Obs. Gen. Unio, (215) vol. ix, p. 152.

M. subcylindracea.
P. A. P. S., (37) vol. ii, 1841, p. 12; T. A. P. S., (43) vol. viii, 1841, p 169; Obs. Gen. Unio, (44) vol. iii, p. 7, pl. v, f. 14.

M. subglobosa.
T. A. P. S., (43) vol. viii, 1841, pp. 176, 186; (51) vol. ix, 1841, p. 14; Obs. Gen. Unio, (44) vol. iii, pp. 10, 24; (56) vol. iv, p. 14.

M. subimbricata.
J. A. N. S., (243) vol. vi, 1866, p. 129; Obs. Gen. Unio, (244) vol. xi, p. 85.

Melania subsolida.
T. A. P. S., (37) vol. ii, 1841, p. 12; T. A. P. S., (43) vol. viii, 1841, p. 168, pl. v, f. 12; Obs. Gen. Unio, (14) vol. iii, p. 6, pl. v, f. 12.

M. subula.
P. Z. S., London, (59) vol. xviii, 1850, p. 181.

M. subularis.
T. A. P. S., (15) vol. iv, 1830, pp. 100, 121, pl. xv. f. 30; J. A. N. S., (214) vol. v, 1862, p. 276; Obs. Gen. Unio, (21) vol. i, pp. 110, 131, pl. xv, f. 30; (215) vol. ix, p. 98.

M. suleosa.
P. A. P. S., (37) vol. ii, 1841, p. 14; T. A. P. S., (43) vol. viii, 1841, p. 185, pl. vi, f. 48. Obs. Gen. Unio, (44) vol. iii, p. 23, pl. vi, f. 48.

M. Taitiana.
P. A. P. S., (37) vol. ii, 1841, p. 11; T. A. P. S., (43) vol. viii, 1841, p. 165, pl. v, f. 5; J. A. N. S., (214) vol. v, 1862, p. 301; Obs. Gen. Unio, (44) vol. iii, p. 3, pl. v, f. 5; (215) vol. ix, p. 123.

M. Tamsii.
J. A. N. S., (243) vol. vi, 1866, p. 125; Obs. Gen. Unio, (244) vol. xi, p. 81.

M. tenebrosa.
P. A. P. S., (37) vol. ii, 1841, p. 13; T. A. P. S., (43) vol. viii, 1841, pp. 167, 176; J. A. N. S., (214) vol. v, 1862, p. 335; (243) vol. vi, 1866, p. 133; Obs. Gen. Unio, (44) vol. iii, pp. 5, 14, pl. v, f. 26; (215) vol. ix, p. 157; (244) vol. xi, p. 89.

M. terebralis.
P. A. P. S., (37) vol. ii, 1841, p. 13; T. A. P. S., (43) vol. viii, 1841, p. 178, pl. vi, f. 32; J. A. N. S., (214) vol. v, 1862, p. 298; Obs. Gen. Unio, (44) vol. iii, p. 16, pl. vi, f. 32; (215) vol. ix, p. 120.

M. teres.
P. A. P. S., (37) vol. ii, 1841, p. 13; T. A. P. S., (43) vol. viii, 1841, pp. 167, 175, 176, pl. v, f. 27; J. A. N. S., (214) vol. v, 1862, p. 332; Obs. Gen. Unio, (44) vol. iii, pp. 5, 13, 14, pl. v, f. 27; (215) vol. ix, f. 154.

M. tessellata.
P. Z. S., London, (59) vol. xviii, 1850, p. 192.

M. tornatella.
P. Z. S., London, (59) vol. xviii, 1850, pp. 185, 186, 187; T. A. P. S., (81) vol. x, 1852, p. 295; Obs. Gen. Unio, (83) vol. v, p. 51.

M. torquata.
P. A. P. S., (48) vol. ii, 1842, p. 242; T. A. P. S., (51) vol. ix, 1842, p. 27; J. A. N. S., (243) vol. vi, 1866, p. 126; Obs. Gen. Unio, (56) vol. iv, p. 27; (244) vol. xi. p. 82.

M. torta.
T. A. P. S., (55) vol. x, 1845, p. 84, pl. ix, f. 30; Obs. Gen. Unio, (56) vol. iv, p. 84, pl. ix, f. 30.

M. transversa.
P. Z. S., London, (59) vol. xviii, 1850, p. 187; T. A. P. S., (81) vol. x, 1852, pp. 295, 296; P. Z. S., London, (59) vol. xviii, 1850, p. 186; J. A. N. S., (243) vol. vi, 1866, pp. 128, 129; Obs. Gen. Unio, (83) vol. v, pp. 51, 52; (244) vol. xi, pp. 84, 85.

M. Troostiana.
T. A. P. S., (27) vol. vi, 1836, p. 92, pl. xxiii, f. 86; Obs. Gen. Unio, (29) vol. ii, p. 92, pl. xxiii, f. 86.

Melania truncata.
P. Z. S., London, (59) vol. xviii, 1850, p. 187.

M. tuberculata.
T. A. P. S., (15) vol. iv, 1830, p. 101, pl. xv, f. 31, a, b; (27) vol. vi, 1838; Obs. Gen. Unio, (21) vol. i, p. 111, pl. xv, f. 31, a, b; (29) vol. ii, p. 18.

M. turgida.
P. A. P. S., (40) vol. ii, 1841, p. 82; T. A. P. S., (51) vol. ix, 1841, p. 18; J. A. N. S., (214) vol. v, 1862, p. 282; Obs. Gen. Unio, (56) vol. iv, p. 18; (215) vol. ix, p. 104.

M. turriculus.
P. Z. S., London, (59) vol. xviii, 1850, p. 190; J. A. N. S., (243) vol. vi, 1866, p. 122; Obs. Gen. Unio, (244) vol. xi, p. 78.

M. uncialis.
J. A. N. S., (214) vol. v, 1862, p. 352; Obs. Gen. Unio, (215) vol. ix, p. 174.

M. undosa.
J. A. N. S., (214) vol. v, 1862, p. 263; Obs. Gen. Unio, (215) vol. ix, p. 85.

M. undulata.
J. A. N. S., (214) vol. v, 1862, pp. 284, 295; (243) vol. vi, 1866, p. 146; Obs. Gen. Unio, (215) vol. ix, pp. 106, 117; (244) vol. xi, p. 102.

M. Vanuxemiana.
P. A. P. S., (48) vol. ii, 1842, p. 242; T. A. P. S., (51) vol. ix, 1842, pp. 25, 26; J. A. N. S., (214) vol. v, 1862, pp. 234, 338, 350; Obs. Gen. Unio, (56) vol. iv, pp. 25, 26; (215) vol. ix, pp. 56, 160, 172.

M. Vanuxemii.
J. A. N. S., (243) vol. vi, 1866, p. 137; Obs. Gen. Unio, (244) vol. xi, p. 93.

M. variabilis.
T. A. P. S., (51) vol. ix, 1842, p. 28; Obs. Gen. Unio, (56) vol. iv, p. 28.

M. varians.
P. A. N. S., (198) vol. xiii, 1861, p. 120; J. A. N. S., (215) vol. ix, p. 41.

M. variata.
P. A. N. S., (198) vol. xiii, 1861, p. 119; J. A. N. S., (214) vol. v, 1862, p. 224; Obs. Gen. Unio, (215) vol. ix, p. 46.

M varicosa.
J. A. N. S., (214) vol. v, 1862, pp. 297, 306; Obs. Gen. Unio, (215) vol. ix, pp. 119, 128.

M. venusta.
P. A. P. S., (37) vol. ii, 1841, p. 15; T. A. P. S., (43) vol. viii, 1841, p. 187, pl. vi, f. 52; J. A. N. S., (214) vol. v, 1862, p. 260; Obs. Gen. Unio, (44) vol. iii, p. 25, pl. vi, f. 52; (215) vol. ix, p. 82.

M. Verreauxiana.
P. A. N. S., (114) vol. viii, 1856, p. 144; J. A. N. S., (243) vol. vi, 1866, p. 127, pl. xxii, f. 27; Obs. Gen. Unio, (244) vol. xi, p. 83, pl. xxii, f. 27.

M. vesicula.
P. A. N. S., (198) vol. xiii, 1861, p. 118; J. A. N. S., (214) vol. v, 1862, p. 242; Obs. Gen. Unio, (215) vol. ix, p. 64.

M. virgata.
P. A. N. S., (37) vol. ii, 1841, p. 13; T. A. P. S., (43) vol. viii, 1841, p. 175, pl. v, f. 25; Obs. Gen. Unio, (44) vol. iii, p. 13, pl. v, f. 25.

Melania Virginica.
T. A. P. S.. (15) vol. iv, 1830, p. 101; (27) vol. vi, 1836, p. 93; (43) vol. viii, 1840, pp. 176, 228; (55) vol. x, 1845, pp. 86, 90; P. Z. S., London, (59) vol. xviii, 1850, pp. 188, 190; Obs. Gen. Unio, (21)vol. i, p. 111; (29) vol. ii, p. 93; (44) vol. iii, pp. 14, 66; (56)vol. iv, pp. 86, 90; (215) vol. ix, p. 40, 159; J. A.N. S., (214) vol. ix, 1862, pp. 218, 337.

M. virgulata.
P. A. N. S., (198) vol. xiii, 1861, p. 119; J. A. N. S., (214) vol. v, 1862, p. 223; Obs. Gen. Unio, (215) vol. ix, p. 45.

M. viridis.
P. A. P. S., (37) vol. ii, p. 12; T. A. P. S., (43) vol. viii, 1841, p. 172, pl. v, f. 19; Obs. Gen. Unio, (44) vol. iii, p. 10, pl. v, f. 19.

M. Warderiana.
T. A. P. S., (43) vol. viii, 1841, p. 185, pl. vi, f. 47; (55) vol. x, 1845, p. 84; J. A. N. S., (243) vol. vi, 1866, p. 138; Obs. Gen. Unio, (44) vol. iii, p. 23, pl. vi, f. 47; (56) vol. iv, p. 84; (244) vol. xi, p. 94.

M. zeylanica.
P. Z. S., London, (59)vol. xviii, 1850, pp. 194,196; J. A. N. S., (243) vol. vi, 1866, p. 118; Obs. Gen. Unio, (244) vol. xi, p. 75.

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T. A. P. S., (20) vol. v, 1833, pp. 83; (51) vol. ix, 1842, p. 24; (81) vol. x, 1852, p. 295; Obs. Gen. Unio, (21) vol. i, p. 195; (56) vol. iv, p. 24; (83) vol. v, p. 51; P. Z. S., London, (59) vol. xviii, 1850, p. 179.

M. Braziliensis.
T. A. P. S., (51) vol. ix, 1842, p. 24; Obs. Gen. Unio, (56) vol. iv, p. 24.

M. crenocarina.
T. A. P. S., (51) vol. ix, 1842, p. 24; Obs. Gen. Unio, (56) vol. iv, p. 24.

M. maculata.
T. A. P. S., (20) vol. v, 1833, p. 82, pl. xix, f. 75; (51) vol. ix, 1842, p. 24; Obs. Gen. Unio, (21) vol. i, p. 194, pl. xix, f. 75; (56) vol. iv, p. 24.

M. princeps.
T. A. P. S., (20) vol. v, 1833, pp. 82, 83, pl. xix, f. 74; Obs. Gen. Unio, (21) vol. i, pp. 194, 195.

MELATOMA.
T. A. P. S , (81) vol. x, 1852, p. 295; J. A. N. S., (214) vol. v, 1862, p. 245; Obs. Gen. Unio, (83) vol. v, p. 51; (215) vol. ix, p. 67; P. A. N. S., (182) vol. xii, 1860, p. 186.

M. costata.
J. A. N. S., (214) vol. v, 1862, p. 245; Obs. Gen. Unio, (215) vol. ix, p. 67.

MESESCHIZA.
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M. Grosvenorii.
J. A. N. S., (243) vol. vi, 1866, p. 152, pl. xxiii, f. 67; Obs. Gen. Unio, (244) vol. xi, p. 108, pl. xxiii, f. 67.

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(18) Con. Geol., 1833, p. 216.

M. Marylandica.
(18) Con. Geol., 1833, p. 215, pl. vi, f. 227.

M. planulata.
(18) Con. Geol., 1833, p. 216.

MITRA.
(18) Con. Geol., 1833, p. 171.

M. cancellata.
(18) Con. Geol., 1833, p. 168.

M. Defrancii.
(18) Con. Geol., 1833, p. 169.

M. Flemingii.
(18) Con. Geol., 1833, p. 170, pl. vi, f. 177.

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(18) Con. Geol., 1833, pp. 169, 170, pl. vi, f. 176.

M. Humboldtii.
(18) Con. Geol., 1833, p. 170, pl. vi, f. 178.

M. lineata.
(18) Con. Geol., 1833, p. 168, pl. v, f. 174.

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(18) Con. Geol., 1833, p. 168, pl. vi, f. 175.

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(18) Con. Geol., 1833, p. 170.

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(18) Con. Geol., 1833, p. 169.

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(18) Con. Geol., 1833, p. 163.

M. fusiformis.
(18) Con. Geol., 1833, p. 162, pl. v, f. 167.

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(18) Con. Geol., 1833, p. 161, pl. v, f. 166.

M. sulcatum.
(18) Con. Geol., 1833, p. 163, pl. v, f. 168.

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T. A. P. S., (27) vol. vi, 1838, p. 135; (79) vol. x, 1852, p. 293; P. Z. S., London, (60) vol. xviii, 1850, p. 199; J. A. N. S., (133) vol. iii, 1857, pp. 317, 318; Obs. Gen. Unio, (29) vol. ii, p. 135; (83) vol. v, p. 49; (150) vol. vi,; pp. 37, 38.

M. Bonellii.
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M. Corrientesensis.
T. A. P. S., (27) vol. vi, 1838, p. 136; Obs. Gen. Unio, (29) vol. ii, p. 136.

M. Cumingii.
J. A. N. S., (168) vol. iv, 1859, pp. 235, 262, pl. xxx, f. 114; Obs. Gen. Unio, (170) vol. vii, pp. 53, 80, pl. xxxiii, f. 114.

M. fossiculifera.
T. A. P. S., (27) vol. vi, 1838, p. 136; (43) vol. viii, 1840, p. 222; Obs. Gen. Unio, (29) vol. ii, p. 136; (44) vol. iii, p. 60.

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M. lentiformis.
J. A. N. S., (257) vol. vi, 1868, p. 272, pl. xxxvi, f. 86; Obs. Gen. Unio, (259) vol. xii, p. 32, pl. xxxvi, f. 86.

M. Mardinensis.
J. A. N. S., (257) vol. vi, 1868, p. 252, pl. xxx, f. 67; Obs. Gen. Unio, (259) vol. xii, p. 12, pl. xxx, f. 67.

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T. A. P. S., (27) vol. vi, 1838, p. 136; Obs. Gen. Unio, (29) vol. ii, p. 136.

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T. A. P. S., (27) vol. vi, 1838, p. 135; Obs. Gen. Unio, (29) vol. ii, p. 135; (150) vol. vi, p. 39; J. A. N. S., (133) vol. iii, 1857, p. 319.

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M. Pazii.
J. A. N. S., (257) vol. vi, 1868, p. 273, pl. xxxvi, f. 88; Obs. Gen. Unio, (259) vol. xii, p. 33, pl. xxxvi, f. 88.

M. planulata.
P. A. N. S., (158) vol. xi, 1859, p. 167; J. A. N. S., (168) vol. iv, 1859, p. 262, pl. xlii, f. 142; (220) vol. v, 1863, p. 399; Obs. Gen. Unio, (170) vol. vii, p. 80, pl. xlii, f. 42; (222) vol. x, p. 35.

M. rhomboidea.
P. A. N. S., (158) vol. xi p. 187; J. A. N. S., (168) vol. iv, 1859, p. 263, pl. xlii, f. 143; Obs. Gen. Unio, (170) vol. vii, p. 81, pl. xlii, f. 143.

M. Sauleyi.
J. A. N. S., (242) vol. vi, 1866, p. 65; Obs. Gen. Unio, (244) vol. xi, p. 69.

M. Vondenbuschiana.
J. A. N. S., (168) vol. iv, 1859, p. 236; Obs. Gen. Unio, (170) vol. vii, p. 54.

M. Wheatleyi.
J. A. N. S., (220) vol. v, 1862, p. 399, pl. l, f. 307; Obs. Gen. Unio, (222) vol. x, p. 35, pl. l, f. 307.

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(18) Con. Geol., 1833, p. 185.

M. Alabamicnsis.
(18) Con. Geol., 1833, pp. 186, 203, pl. vi, f. 201.

M. elegans.
(18) Con. Geol., 1833, p. 203, pl. vi, f. 217.

M. melanoides.
(18) Con Geol., 1833, p. 185.

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(18) Con. Geol., 1833, p. 157.

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(18) Con. Geol., 1833, p. 157, pl. v, f. 163.

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(18) Con. Geol., 1833, p. 157.

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(18) Con. Geol., 1833, p. 153.

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(18) Con. Geol., 1833, p. 154.

M. pungens.
(18) Con. Geol., 1833, p. 157.

M. tubifer.
(18) Con. Geol., 1833, p. 157.

M. turgidus.
(18) Con. Geol., 1833, p. 151.

MYA.
T. A. P. S., (20) vol. v, p. 24.

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M. ambigua.
T. A. P. S., (27) vol. vi, 1838, p. 122; Obs. Gen. Unio, (29) vol. ii, p. 122.

M. angulata.
T. A. P. S., (27) vol. vi, 1838, p. 121; Obs. Gen. Unio, (29) vol. ii, p. 121.

M. angustata.
T. A. P. S., (27) vol. vi, 1838, p. 132; Obs. Gen. Unio, (29) vol. ii, p. 132.

M. Batava.
T. A. P. S., (27) vol. vi, 1838, p. 128; Obs. Gen. Unio, (29) vol. ii, p. 128.

M. complanata.
T. A. P. S., (12) vol. iii, 1829, p. 416; (15) vol. iv, 1830, p. 77; (27) vol. vi, 1838, p. 130; J. A. N. S., (221) vol. v, 1863, p. 412; Obs. Gen. Unio, (21) vol. i, pp. 30, 87; (29) vol. ii, p. 130; (222) vol. x, p. 48.

M. corrugata.
T. A. P. S., (27) vol. vi, 1838, p. 129; Obs. Gen. Unio, (29) vol. ii, p. 129.

M. corrugata Marocana.
T. A. P. S., (27) vol. vi, 1838, p. 132; Obs. Gen. Unio, (29) vol. ii, p. 132.

M. crassa.
T. A. P. S., (27) vol. vi, 1838, p. 122; Obs. Gen. Unio, (29) vol. ii, p. 122.

M. crassissima.
T. A. P. S., (27) vol. vi, 1838, p. 139; Obs. Gen. Unio, (29) vol. ii, p. 134.

M. depressa.
T. A. P. S., (27) vol. vi, 1838, pp. 130, 132; Obs. Gen. Unio, (29) vol. ii, pp. 130, 132.

M. gravis.
T. A. P. S., (27) vol. vi, 1838, p. 127; Obs. Gen. Unio, (29) vol. ii, p. 127.

M. margaritifera.
T. A. P. S., (12) vol. iii, 1829, p. 421; (20) vol. v, 1833, pp. 63, 87, 88; (27) vol. vi, 1838, pp. 134, 136; J. A. N. S., (159) vol. iv, 1859, p. 224; Obs. Gen. Unio, (21) vol. i, pp. 35, 175, 199, 200; (29) vol. ii pp. 134, 136; (170) vol. vii, p. 42.

M. nasuta.
T. A. P. S., (27) vol. vi, 1838, p. 132; Obs. Gen. Unio, (29) vol. ii, p. 132.

M. nodosa.
T. A. P. S., (27) vol. vi, 1838, p. 129; Obs. Gen. Unio, (29) vol. ii, p. 129.

M. nodulosa.
T. A. P. S., (27) vol. vi, 1838, p. 123; Obs. Gen. Unio, (29) vol. ii, p. 23; (215) vol. ix, p. 28; J. A. N. S., (213) vol. v, 1862, p. 206.

M. obliqua.
T. A. P. S., (27) vol. vi, 1838, p. 125; Obs. Gen. Unio, (29) vol. i p. 125.

M. oblongata.
T. A. P. S., (27) vol. vi, 1838, p. 127; Obs. Gen. Unio, (29) vol. ii, p. 127.

M. ovalis.
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Mya ovata.
T. A. P. S., (27) vol. vi, 1838, p. 132; Obs. Gen. Unio, (29) vol. ii, p. 132.

M. pictorum.
T. A. P. S., (15) vol. iv, 1830, p. 67; (27) vol. vi, 1838, pp. 128, 129, 132; Obs. Gen. Unio, (21) vol. i, p. 77; (29) vol. ii, pp. 128, 129, 132.

M. pictorum tenuis.
T. A. P. S., (27) vol. vi, 1838, p. 127; Obs. Gen. Unio, (29) vol. ii, p. 127.

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T. A. P. S., (27) vol. vi, 1838, p. 122; Obs. Gen. Unio, (29) vol. ii, p. 122.

M. prælonga.
T. A. P. S., vol. vi, 1838, p. 131; Obs. Gen. Unio, (29) vol. ii, p. 131.

M. radiata.
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M. rigida.
T. A. P. S., (27) vol. vi, 1838, p. 130; Obs. Gen. Unio, (29) vol. ii, p. 130.

M. rotunda.
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M. rugosa.
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M. spuria.
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M. syrmatophora.
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M. undulata.
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M. emarginatus.
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M. siliquosus.
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(18) Con. Geol., 1833, p. 74.

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M. ovata.
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M. pictorum.
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M. solida.
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M. cygneus.
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M. dubius.
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P. orientalis.
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P. pallida.
T. A. P. S., (27) vol. vi, 1835, p. 22, pl. xxiii, f. 104; (51) vol. ix, 1841, p. 16; Obs. Gen. Unio, (29) vol. ii, p. 22, pl. xxiii, f. 104; (56) vol. iv, p. 16.

P. porata.
T. A. P. S., (51) vol. ix, 1841, pp. 13, 16; Obs. Gen. Unio, (56) vol. iv, pp. 13, 16.

P. pyramidata.
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P. regularis.
P. A. P. S., (39) vol. ii, 1841, p. 34; T. A. P. S., (51) vol. ix. 1841, p. 13; Obs. Gen. Unio, (56) vol. iv, p. 13.

P. sinistrosa.
T. A. P. S., (27) vol. vi, 1836, p. 90, pl. xxiii, f. 78; Obs. Gen. Unio, (29) vol. ii, p. 90, pl. xxiii, f. 78.

P. Spillmanii.
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P. subcarinatus.
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(18) Con. Geol., 1833, p. 100, pl. iv, f. 79.

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P. venusta.

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(18) Con. Geol., 1833, p. 95.

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(18) Con. Geol., 1833, p. 124, pl. iv, f. 113.

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(18) Con. Geol., 1833, p. 125; T. A. P. S., (51) vol. ix, 1841, p. 6; J. A. N. S., (243) vol. vi, 1866, p. 156; Obs. Gen. Unio, (56) vol. iv, p. 6; (244) vol. xi, p. 112.

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(18) Con. Geol., 1833, p. 136, pl. iv, f. 131.

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(18) Con. Geol., 1833, p. 136, pl. iv, f. 130.

P. Sayi.
(18) Con. Geol., 1833, p. 133, pl. iv, f. 125.

P. semicolon.
(18) Con. Geol., 1833, p. 134.

Pleuronarium tuberculosum.
(18) Con. Geol., 1833, p. 124.

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(18) Con. Geol., 1833, p. 90.

P. Mantilli.
(18) Con. Geol., 1833, p. 89, pl. iii, f. 68.

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T. A. P. S., (82) vol. x, 1852, p. 304; Obs. Gen. Unio, (83) vol. v, p. 60.

P. Dorfeuilliana.
T. A. P. S., (27) vol. vi, 1838, pp. 107, 108, pl. xxiv, f. 118; (82) vol. x, 1852, p. 307; Obs. Gen. Unio, (29) vol. ii, pp. 107, 108, pl. xxiv, f. 118; (83) vol. v, p. 60.

P. fatigiata.
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P. plicata.
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P. Troostiana.
T. A. P. S., (27) vol. vi, 1838, p. 107, pl. xxiv, f. 119; (82) vol. x, 1852, p. 304; Obs. Gen. Unio, (29) vol. ii, p. xxiv, f. 119; (83) vol. v, p. 60.

Polyphemus glans.
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Pompholyx effusa.
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(18) Con. Geol., 1833, p. 131.

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P. obliquus.
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P. truncatus.
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(18) Con. Geol., 1833, p. 74.

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(18) Con. Geol., 1833, p. 100.

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(18) Con. Geol., 1833, pp. 152, 154.

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(18) Con. Geol., 1833, p. 156.

P. cancellata.
(18) Con. Geol., 1833, p. 154, pl. v, f. 160.

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(18) Con. Geol., 1833, p. 155, pl. v, f. 161.

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(18) Con. Geol., 1833, p. 154.

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(18) Con. Geol., 1833, p. 154.

P. Smithii.
(18) Con. Geol., 1833, p. 155, pl. v, f. 162.

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P. A. N. S., (130) vol. ix, 1857, p. 173.

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(18) Con. Geol., 1833, p. 205.

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(18) Con. Geol., 1833, pp. 100, 127.

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R. maculata.
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R. spiralis.
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R. Zeylonica.
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(18) Con. Geol., 1833, p. 158.

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(18) Con. Geol., 1833, p. 159.

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(18) Con. Geol., 1833, p. 159.

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(18) Con. Geol., 1833, p. 160, pl. v, f. 165.

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(18) Con. Geol., 1833, p. 160.

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(18) Con. Geol., 1833, pp. 159, 160.

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(18) Con. Geol., 1833, p. 158, pl. v, 164.

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(18) Con. Geol., 1833, p. 159.

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(18) Con. Geol., 1833, p. 159.

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(18) Con. Geol., 1833, p. 160.

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(18) Con. Geol., 1833, p. 214.

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(18) Con. Geol., 1833, p. 214, pl. vi, f. 225.

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(18) Con. Geol., 1833, p. 39.

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(18) Con. Geol., 1833, p. 219.

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(18) Con. Geol., 1833, p. 117.

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(18) Con. Geol., 1833, p. 116, pl. iv, f. 103.

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(18) Con. Geol., 1833, p. 116.

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(18) Con. Geol., 1833, p. 117.

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(18) Con. Geol., 1833, p. 115, pl. iv, f. 102.

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(18) Con. Geol., 1833, p. 116.

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(18) Con. Geol., 1833, p. 116.

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S. carinifera.
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S. castanea.
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S. funiculatum.
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S. globosa.
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S. globula.
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S. Hartmanii.
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S. incisa.
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S. laciniatum.
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S. Lewisii.
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S. pumila.
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S. Showalterii.
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S. virens.
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S. Wetumpkaensis.
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S. Wheatleyi.
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(18) Con. Geol., 1833, p. 25.

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(18) Con. Geol., 1833, p. 37.

S. granulata.
(18) Con. Geol., 1833, p. 37.

S. ornata.
(18) Con. Geol., 1833, p. 37, pl. i, f. 5.

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(18) Con. Geol., 1833, p. 105.

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(18) Con. Geol., 1833, p. 33, pl. i, f. 1.

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(18) Con. Geol., 1833, p. 123.

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(18) Con. Geol., 1833, p. 119, pl. iv, f. 106.

S. canaliculatum.
(18) Con. Geol., 1833, p. 120.

S. cancellatum.
(18) Con. Geol., 1833, p. 121, pl. iv, f. 110.

S. elegans.
(18) Con. Geol., 1833, p. 121, pl. iv, f. 109.

S. granulatum.
(18) Con. Geol., 1833, p. 122, pl. iv, f. 111.

S. Henrici.
(18) Con. Geol., 1833, p. 119, pl. iv, f. 107.

S. ornatum.
(18) Con. Geol., 1833, p. 120, pl. iv, f. 108.

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(18) Con. Geol , 1833, pp. 121, 122.

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(18) Con. Geol., 1833, p. 39, pl. xxxix, f. 7.

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(18) Con. Geol., 1833, p. 39.
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(18) Con. Geol., 1833, p. 208.
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(18) Con. Geol., 1833, p. 208.
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S. elongata.
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S. modesta.
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S. Natalensis.
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(18) Con. Geol. 1833, p. 36, pl. i, f. 4.
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(18) Con. Geol. 1833, p. 105.
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S. Lyonii.
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S. Candeana.
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S. inflata.
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J. A. N. S., (243) vol. vi, 1866, p. 180; Obs. Gen. Unio, (244) vol. xi, p. 136.

S. Mooresiana.
J. A. N. S., (243) vol. vi, 1866, p. 179, pl. xxiv, f. 109; Obs. Gen. Unio, (244) vol. xi, p. 135, pl. xxiv, f. 109.

S. Nuttalliana.
P. A. P. S., (39) vol. ii, 1841, p. 32; T. A. P. S., (51) vol. ix, 1841, pp. 3, 4; J. A. N. S., (243) vol. vi, 1866, pp. 180, 181, 182; Obs. Gen. Unio, (56) vol. iv, pp. 3, 4; (244) vol. xi, pp. 136, 137, 138.

S. obliqua.
T. A. P. S., (51) vol. ix, 1841, pp. 4, 5; J. A. N. S., (243) vol. vi, 1866, pp. 181, 182; Obs. Gen. Unio, (56) vol. iv, pp. 4, 5; (244) vol. xi, pp. 137, 138.

S. Orcgonensis.
P. A. P. S., (39) vol. ii, 1841, p. 32; T. A. P. S., (51) vol. ix, 1841, p. 5; J. A. N. S., (243) vol. vi, 1866, pp. 180, 181, 182; Obs. Gen. Unio, (56) vol. iv, p. 5; (244) vol. xi, pp. 136. 137, 138.

S. ovalis.
T. A. P. S., (51) vol. ix, 1841, pp. 4, 5; J. A. N. S., (243) vol. vi, 1866, pp. 181, 182; Obs. Gen. Unio, (56) vol. iv, pp. 4, 5; (244) vol. xi, pp. 137, 138.

S. pellucida.
J. A. N. S., (243) vol. vi, 1866, p. 178, pl. xxiv, f. 106; Obs. Gen. Unio, (244) vol. xi, p. 134, pl. xxiv, f. 106.

Succinea putris.
T. A. P. S., (51) vol. ix, 1841, p. 4; Obs. Gen. Unio, (56) vol. iv, p. 4.

S. retusa.
T. A. P. S., (20) vol. v, 1834, p. 117, pl. xix, f. 86; (51) vol. ix, 1841, p. 4; J. A. N. S., (243) vol. vi, 1866, pp. 178, 181; Obs. Gen. Unio, (21) vol. i, p. 229, pl. xix, f. 86; (56) vol. iv, p. 4; (244) vol. xi, pp. 134, 137.

S. rusticana.
J. A. N. S., (243) vol. vi, 1866, p. 182; Obs. Gen. Unio, (244) vol. xi, p. 138.

S. Totteniana.
P. A. P. S., vol. ii, 1841, p. 32; T. A. P. S., (51) vol. ix, 1841, p. 4; J. A. N. S., (243) vol. vi, 1866, pp. 180, 181, 182; Obs. Gen. Unio, (56) vol. iv, p. 4; (244) vol. xi, pp. 136, 137, 138.

S. vermeta.
T. A. P. S., (51) vol. ix, 1841, p. 4; J. A. N. S., (243) vol. vi, 1866, p. 178; Obs. Gen. Unio, (56) vol. iv, p. 4; (244) vol. xi, p. 4.

S. Wardiana.
P. A. P. S., (39) vol. ii, 1841, p. 31; T. A. P. S., (51) vol. ix, 1841, p. 3; J. A. N. S., (243) vol. vi, 1841, pp. 178, 180, 181; Obs. Gen. Unio, (56) vol. iv, p. 3; (244) vol. xi, pp. 134, 136, 137.

S. Wilsonii.
J. A. N. S., (243) vol. vi, 1866, pp. 177, 179, pl. xxiv, f. 105; Obs. Gen. Unio, (244) vol. xi, pp. 133, 135, pl. xxiv, f. 105.

SYMPHYNOTA.
T. A. P. S., (12) vol. iii, 1829, p. 424, 442; (15) vol. iv, 1830, pp. 67, 68; (27) vol. vi, 1838, pp. 115, 116, 117; Obs. Gen. Unio, (21) vol. i, pp. 38, 56, 77, 78; (29) vol. ii, pp. 115, 116, 117.

S. alata.
T. A. P. S., (12) vol. iii, 1829, pp. 445, 447, 448; (15) vol. iv, 1830, p. 67, 1831, p. 106; (20) vol. v, p. 26; (27) vol. vi, 1838, p. 121; Obs. Gen. Unio, (21) vol. i, pp. 59, 61, 62, 77; (29) vol. ii, p. 121.

S. Benedictensis.
T. A. P. S., (20) vol. v, 1834, p. 104, pl. xvi, f. 48; (27) vol. vi, 1838, p. 137; Obs. Gen. Unio, (21) vol. i, p. 216, pl. xvi, f. 48; (29) vol. ii, p. 137.

S. Bengalensis.
T. A. P. S., (27) vol. vi, 1835, p. 20; Obs. Gen. Unio, (29) vol. ii, p. 20.

S. bialata.
T. A. P. S., (12) vol. iii, 1829, p. 445, pl. xiv, f. 24; (15) vol. iv, 1830, pp. 68, 100; (20) vol. v, 1833, pp. 75, 105; (27) vol. vi, 1834, p. 3, 1838, pp. 117, 136; Obs. Gen. Unio, (21) vol. i, pp. 59, 78, 110, 117, 187, pl. xiv, f. 24; (29) vol. ii, pp. 3, 117, 136.

S. bilineata.
T. A. P. S., (15) vol. iv, 1830, p. 98, pl. xi, f. 19; (27) vol. vi, 1838, p. 133; Obs. Gen. Unio, (21) vol. i, p. 108, pl. xi, f. 19; (29) vol. ii, p, 133.

S. complanata.
T. A. P. S., (12) vol. iii, 1829, p. 448; (15) vol. iv, 1831, p. 106; (20) vol. v, 1832, p. 28; (27) vol. vi, 1836, p. 55, 1838, p. 134; Obs. Gen. Unio, (21) vol. i, pp. 62, 116, 140; (29) vol. ii, pp. 55, 134.

Symphynota compressa.
T. A. P. S., (12) vol. iii, 1829, pp. 429, 450; (15) vol. iv, 1830, p. 67; (20) vol. v, 1832, p. 25; (27) vol. vi, 1838, p. 121; (79) vol. x, 1852, pp. 257, 294; Obs. Gen. Unio, (21) vol. i, pp. 43, 64, 77, 137; (27) vol. vi, 1838, p. 121; (83) vol. x, 1852, pp. 257, 294.

S. cygnea.
T. A. P. S., (12) vol. iii, 1829, p. 456; (15) vol. iv, 1831, p. 99; Obs. Gen. Unio, (21) vol. i, pp. 70, 109.

S. discoidea.
T. A. P. S., (20) vol. v, 1853, p. 75, pl. xi, f. 33; (27) vol. vi, 1834, p. 3, 1838, p. 136; Obs. Gen. Unio, (21) vol. i, p. 187, pl. xi, f. 33; (29) vol. ii, pp. 3, 136.

S. globosa.
T. A. P. S., (20) vol. v, 1832, p. 41; (27) vol. vi, 1838, p. 126; Obs. Gen. Unio, (21) vol. i, p. 153, pl. iv, f. 12; (29) vol. ii, p. 126.

S. gracilis.
T. A. P. S., (12) vol. iii, 1829, pp. 452, 454; (27) vol. vi, 1836, p. 55, 1838, p. 121; Obs. Gen. Unio, (21) vol. i, pp. 66, 68; (29) vol. ii, pp. 55, 121.

S. inflata.
T. A. P. S., (15) vol. iv, 1830, p. 99, pl. xiv, f. 28; (27) vol. vi, 1838, p. 121; Obs. Gen. Unio, (21) vol. i, p. 109, pl. xiv, f. 28; (29) vol. ii, p. 121.

S. lævissima.
T. A. P. S., (12) vol. iii, 1829, pp. 413, 444, pl, xiii, f. 23; (15) vol. iv, 1830, pp. 68, 100; (27) vol. vi, 1838, p. 121; Obs. Gen. Unio, (21) vol. i, pp. 27, 58, 60, 78, 110, pl. xiii, f. 23; (29) vol. ii, p. 121.

S. magnifica.
T. A. P. S., (20) vol. v, 1832, p. 43, pl. v, f. 14; 1833, p. 75; (27) vol. vi, 1838, pp. 118, 137; Obs. Gen. Unio, (21) vol. i, pp. 155, 187, pl. v, f. 14; (29) vol. ii, pp. 118, 137.

S. ochracea.
T. A. P. S., (12) vol. iii, 1829, p. 455; (15) vol. iv, 1830, p. 99; (27) vol. vi, 1838, p. 126; Obs. Gen. Unio, (21) vol. i, pp. 69, 109; (29) vol. ii, p. 126.

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S. tenuissima.
T. A. P. S., (12) vol. iii, 1829, pp. 414, 453, pl. xi, f. 21; (27) vol. vi, 1838, pp. 131, 133; J. A. N. S., (221) vol. v, 1863, p. 441; Obs. Gen. Unio, (21) vol. i, pp. 28, 67, pl. xi, f. 21; (29) vol. ii, pp. 131, 133; (222) vol. x, p. 77.

S. Woodiana.
T. A. P. S., (20) vol. v, 1832, p. 42, pl. v, f. 13; (27) vol. vi, 1838, p. 137; Obs. Gen. Unio, (21) vol. i, p. 154, pl. v, f. 13; (29) vol. ii, p. 137.

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(18) Con. Geol, 1833, p. 166, pl. v, f. 172.

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(18) Con. Geol, 1833, p. 166, pl. v, f. 171.

T. venusta.
(18) Con. Geol, 1833, p. 167, pl. v, f. 173.

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(18) Con. Geol., 1833, p. 38.

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(18) Con. Geol., 1833, p. 219.

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(18) Con. Geol, 1833, p. 110.

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T. contorta.
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T. subviridis.
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T. affine.
J. A. N. S., (243) vol. vi, 1866, p. 145, pl. xxxiii, f. 57; Obs. Gen. Unio, (244) vol. xi, p. 101, pl. xxiii, f. 57.

T. Alabamense.
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T. Anthonyi.
J. A. N. S., (214) vol. v, 1862, p. 293, pl. xxxvi, f. 123; (243) vol. vi, 1866, p. 146; Obs. Gen. Unio, (215) vol. ix, p. 115, pl. xxxvi, f. 123; (244) vol. xi, p. 102.

T. annulifera.
J. A. N. S., (214) vol. v, 1862, p. 292; Obs. Gen. Unio, (215) vol. ix, p. 114.

T. attenuatum.
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T. bicostata.
J. A. N. S., (214) vol. v, 1862, p. 290; Obs. Gen. Unio, (215) vol. ix, p. 112.

T. bivittatum.
J. A. N. S., (214) vol. v, 1862, pp. 278, 279, 280, pl. xxxvi, f. 97; Obs. Gen. Unio, (215) vol. ix, pp. 100, 101, 102, pl. xxxvi, f. 97.

T. Brumbyi.
J. A. N. S., (214) vol. v, 1862, p. 287; Obs. Gen. Unio, (215) vol. ix, p. 109.

Trypanostoma canaliculata.
J. A. N. S., (214) vol. v, 1862, pp. 278, 284, 285, 291, 292, 294; Obs. Gen. Unio, (215) vol. ix, pp. 100, 106, 107, 113, 114, 116.

T. canaliculata.
J. A. N. S., (214), vol. v, 1862, p. 292, pl. xxxvi, f. 121; (243) vol. vi, 1866, p. 145; Obs. Gen. Unio, (215) vol. ix, p. 114, pl. xxxvi, f. 121; (244) vol. xi, p. 101.

T. carinatum.
J. A. N. S., (243) vol. vi, 1866, p. 148, pl. xxiii, f. 62; Obs. Gen. Unio, (244) vol. xi, p. 104, pl. xxiii, f. 62.

T. Carolinense.
J. A. N. S., (214) vol. v, 1862, p. 351, pl. xxxix, f. 221; Obs. Gen. Unio, (215) vol. ix, p. 173, pl. xxxix, f. 221.

T. castaneum.
J. A. N. S., (258) vol. vi, 1868, p. 338, pl. liv, f. 20; Obs. Gen. Unio, (259) vol. xii, p. 98, pl. liv, f. 20.

T. Chakasahœnsis.
J. A. N. S., (214) vol. v, 1862, pp. 280, 352, pl. xxxvi, f. 99; Obs. Gen. Unio, (215) vol. ix, pp. 102, 174, pl. xxxvi, f. 99.

T. Christyi.
J. A. N. S., (214) vol. v, 1862, pp. 272, 274, pl. xxxvi, f. 83; (243) vol. vi, 1866, p. 144; Obs. Gen. Unio, (215) vol. xi, pp. 94, 96, pl. xxxvi, f. 83; (244) vol. xi, p. 100.

T. cinctum.
J. A. N. S., (243) vol. vi, 1866, p. 147, pl. xxiii, f. 60; Obs. Gen. Unio, (244) vol. xi, p. 103, pl. xxiii, f. 60.

T. Clarkii.
J. A. N. S., (214) vol. v, 1862, p. 285, pl. xxxvi, f. 108; Obs. Gen. Unio, (215) vol. ix, p. 107, pl. xxxvi, f. 108.

T. conica.
J. A. N. S., (243) vol. vi, 1866, p. 144; Obs. Gen. Unio, (244) vol. xi, p. 100.

T. corneum.
J. A. N. S., (243) vol. vi, 1866, p. 148, pl. xxiii, f. 63; Obs. Gen. Unio, (244) vol. xi, p. 104, pl. xxiii, f. 63.

T. Currierianum.
J. A. N. S., (243) vol. vi, 1866, p. 147, pl. xxiii, f. 61; Obs. Gen. Unio, (244) vol. xi, p. 103, pl. xxiii, f. 61.

T. curtatum.
J. A. N. S., (243) vol. vi, 1866, p. 143, pl. xxiii, f. 53; Obs. Gen. Unio, (244) vol. xi, p. 99, pl. xxiii, f. 53.

T. cylindraceum.
J. A. N. S., (243) vol. vi, 1866, pp. 142, 143, pl. xxiii, f. 51; Obs. Gen. Unio, (244) vol. xi, pp. 98, 99, pl. xxiii, f. 51.

T. dignum.
J. A. N. S., (214) vol. v, 1862, p. 350, pl. xxxix, f. 219; Obs. Gen. Unio, (215) vol. ix, p. 172, pl. xxxix, f. 219.

T. dux.
J. A. N. S., (244) vol. v, 1862, p. 283, pl. xxxvi, f. 105; Obs. Gen. Unio, (215) vol. ix, p. 105, pl. xxxvi, f. 105.

Trypanostoma elongata.

J. A. N. S., (214) vol. v, 1862, p. 287; (243) vol. vi, 1866, p, 148; Obs. Gen. Unio, (215) vol. ix, p. 109; (244) vol. xi, p. 104.

T. Estabrookii.

J. A. N. S., (214) vol. v, 1862, pp. 273, 275, pl. xxxvi, f. 86; Obs. Gen. Unio, (215) vol. ix, pp. 77, 95, pl. xxxvi, f. 86.

T. filum.

J. A. N. S., (214) vol. v, 1862, p. 284; Obs. Gen. Unio, (215) vol. ix, p. 106.

T. Florencense.

J. A. N. S., (214) vol. v, 1862, pp. 287, 288, pl. xxxvi, f. 112; Obs. Gen. Unio, (215) vol. ix, pp. 109, 110, pl. xxxvi, f. 112; also Errata.

T. Hartmanii.

J. A. N. S., (214) vol. v, 1862, pp. 270, 276, pl. xxxvi, f. 80; (243) vol. vi, 1866, pp. 142, 146; Obs. Gen. Unio, (215) vol. ix, pp. 92, 98, pl. xxxvi, f. 80; (244) vol. xi, pp. 98, 102.

T. Henryanum.

J. A. N. S., (214) vol. v, 1862, p. 381, pl. xxxix, f. 222; Obs. Gen. Unio, (215) vol. ix, p. 173, pl. xxxix, f. 222.

T. incurvum.

J. A. N. S., (214) vol. v, 1862, p. 286, pl. xxxvi, f. 109; Obs. Gen. Unio, (215) vol. ix, p. 108, pl. xxxvi, f. 109.

T. infrafasciata.

J. A. N. S., (214) vol. v, 1862, pp. 291, 292; Obs. Gen. Unio, (215) vol. ix, pp. 113, 114.

T. Jayi.

J. A. N. S., (214) vol. v, 1862, p. 270, pl. xxxvi, f. 81; Obs. Gen. Unio, (215) vol. ix, p. 92, pl. xxxvi, f. 81.

T. Knoxense.

J. A. N. S., (214) vol. v, 1862, p. 281, pl. xxxvi, f. 101; Obs. Gen. Unio, (215) vol. ix, p. 103, pl. xxxvi, f. 101.

T. Knoxvillense.

J. A. N. S., (214) vol. v, 1862, p. 274, pl. xxxvi, f. 87; Obs. Gen. Unio, (215) vol. ix, p. 96, pl. xxxvi, f. 87.

T. labiatum.

J. A. N. S., (214) vol. v, 1862, pp. 272, 283, pl. xxxvi, f. 84; Obs. Gen. Unio, (215) vol. ix, pp. 94, 105, pl. xxxvi, f. 84.

T. lativittatum.

J. A. N. S., (214) vol. v, 1862, pp. 352, 353, pl. xxxix, f. 223; Obs. Gen. Unio, (215) vol. ix, pp. 174, 175, pl. xxxix, f. 223.

T. Lesleyi.

J. A. N. S., (243) vol. vi, 1866, p. 146, pl. xxiii, f. 59; Obs. Gen. Unio, (244) vol. xi, p. 102, pl. xxiii, f. 59.

T. Lewisii.

J. A. N. S., (214) vol. v, 1862, p. 292, pl. xxxvi, f. 120; Obs. Gen. Unio, (215) vol. ix, p. 114, pl. xxxvi, f. 120.

T. ligatum.

J. A. N. S., (214) vol. v, 1862, p. 288, pl. xxxvi, f. 114; Obs. Gen. Unio, (215) vol. ix, p. 110, pl. xxxvi, f. 114.

Trypanostoma lutcum.

J. A. N. S., (214) vol. v, 1862, p. 350, pl. xxxix, f. 220; Obs. Gen. Unio, (215) vol. ix, p. 172, pl. xxxix, f. 220.

T. Lyonii.

J. A. N. S., (243) vol. vi, 1866, p. 144, pl. xxiii, f. 55; Obs. Gen. Unio, (244) vol. xi, p. 100, pl. xxiii, f. 55.

T. minor.

J. A. N. S., (214) vol. v, 1862, p. 278, pl. xxxvi, f. 95; (243) vol. vi, 1866, p. 143; Obs. Gen. Unio, (215) vol. ix, p. 100, pl. xxxvi, f. 95; (244) vol. xi, p. 99.

T. modestum.

J. A. N. S., (214) vol. v, 1862, p. 276, pl. xxxvi, f. 92; (243) vol. vi, 1866, p. 144; Obs. Gen. Unio, (215) vol. ix, p. 98, pl. xxxvi, f. 92; (244) vol. xi, p. 100.

T. moniliferum.

J. A. N. S., (214) vol. v, 1862, p. 295, pl. xxxvi, f. 125; (243) vol. vi, 1866, p. 145; Obs. Gen. Unio, (215) vol. ix, p. 117, pl. xxxvi, f. 125; (244) vol. xi, f. 101.

T. moriforme.

J. A. N. S., (214) vol. v, 1862, pp. 284, 289, 290, pl. xxxvi, f. 118; (243) vol. vi, 1866, p. 142; Obs. Gen. Unio, (215) vol. ix, pp. 106, 111, 112, pl. xxxvi, f. 118; (244) vol. xi, p. 98.

T. mucronatum.

J. A. N. S., (214) vol. v, 1862, p. 277, pl. xxxvi, f. 93; (243) vol. vi, 1866, p. 152; Obs. Gen. Unio, (215) vol. ix, p. 99, pl. xxxvi, f. 93; (244) vol. xi, p. 108.

T. napoideum.

J. A. N. S., (243) vol. vi, 1866, p. 143, pl. xxiii, f. 54; Obs. Gen. Unio, (244) vol. xi, p. 99, pl. xxiii, f. 54.

T. Niagarensis.

J. A. N. S., (214) vol. v, 1862, p. 276; Obs. Gen. Unio, (215) vol. ix, p. 98.

T. nuciforme.

J. A. N. S., (258) vol. vi, 1868, p. 337, pl. liv, f. 19; Obs. Gen. Unio, (259) vol. xii, p. 97, pl. liv, f. 19.

T. Ocoeénsis.

J. A. N. S., (214) vol. v, 1862, p. 290; Obs. Gen. Unio, (215) vol. ix, p. 112.

T. olivaceum.

J. A. N. S., (214) vol. v, 1862, p. 290, pl. xxxvi, f. 117; Obs. Gen. Unio, (215) vol. ix, p. 112, pl. xxxvi, f. 117.

T. Ordii.

J. A. N. S., (214) vol. v, 1862, p. 293; Obs. Gen. Unio, (215) vol. ix, p. 115.

T. pallidum.

J. A. N. S., (214) vol. v, 1862, p. 275, pl. xxxvi, f. 90; Obs. Gen. Unio, (215) vol. ix, p. 97, pl. xxxvi, f. 90.

T. parvum.

J. A. N. S., (214) vol. v, 1862, pp. 276, 280, pl. xxxvi, f. 91; (243) vol. vi, 1866, p. 142; Obs. Gen. Unio, (215) vol. ix, pp. 98, 102, pl. xxxvi, f. 91; (244) vol. xi, p. 98.

T. Postellii.

J. A. N. S., (214) vol. v, 1862, p. 286, pl. xxxvi, f. 110; Obs. Gen. Unio, (215) vol. ix, p. 108, pl. xxxvi, f. 110.

Trypanostoma pumilum.
J. A. N. S., (214) vol. v, 1862, p. 279, pl. xxxvi, f. 96; (243) vol. vi, 1866, p. 143; Obs. Gen. Unio, (215) vol. ix, p. 101, pl. xxxvi, f. 96; (244) vol. xi, p. 99.

T. Pybasii.
J. A. N. S., (214) vol. v, 1862, p. 289, pl. xxxvi, f. 115; Obs. Gen. Unio, (215) vol. ix, p. 111, pl. xxxvi, f. 115.

T. regularis.
J. A. N. S., (214) vol. v, 1862, p. 272; Obs. Gen. Unio, (215) vol. ix, p. 94.

T. Roanense.
J. A. N. S., (243) vol. vi, 1866, p. 142, pl. xxiii, f. 52; Obs. Gen. Unio, (244) vol. xi, p. 98, pl. xxiii, f. 52.

T. rostellatum.
J. A. N. S., (214) vol. v, 1862, p. 353, pl. xxxix, f. 225; Obs. Gen. Unio, (215) vol. ix, p. 175, pl. xxxix, f. 225.

T. Sayi.
J. A. N. S., (214) vol. v, 1862, p. 276; Obs. Gen. Unio, (215) vol. ix, p. 98.

T. Showalterii.
J. A. N. S., (214) vol. v, 1862, p. 293, pl. xxxvi, f. 122; Obs. Gen. Unio, (215) vol. ix, p. 115, pl. xxxvi, f. 122.

T. simplex.
J. A. N. S., (214) vol. v, 1862, pp. 277, 351, pl. xxxvi, f. 94; Obs. Gen. Unio, (215) vol. ix, pp. 99, 173, pl. xxxvi, f. 94.

T. Spillmanii.
J. A. N. S., (214) vol. v, 1862, pp. 271, 285, pl. xxxvi, f. 82; Obs. Gen. Unio, (215) vol. ix, pp. 93, 107, pl. xxxvi, f. 82.

T. striatum.
J. A. N. S., (214) vol. v, 1862, p. 294, pl. xxxvi. f. 124; Obs. Gen. Unio, (214) vol. v, 1862, p, 294, pl. xxxvi, f. 124.

T. strictum.
J. A. N. S., (214) vol. v, 1862, p. 352, pl. xxxix, f. 224; Obs. Gen. Unio, (215) vol. ix, p. 174. pl. xxxix, f. 224.

T. subrobustum.
J. A. N. S., (243) vol. vi, 1866, p. 141, pl. xxiii, f. 50; Obs. Gen. Unio, (244) vol. xi, p. 97, pl. xxiii, f. 50.

T. subulæforme.
J. A. N. S., (214) vol. v, 1862, p. 289, pl. xxxvi, f. 116; Obs. Gen. Unio, (215) vol. ix, p. 111, pl. xxxvi, f. 116.

T. subularis.
J. A. N. S., (214) vol. v, 1862, p. 276; Obs. Gen. Unio, (215) vol. ix, p. 98.

T. Sycamorense.
J. A. N. S., (214) vol. v, 1862, p. 283, pl. xxxvi, f. 104; Obs. Gen. Unio, (215) vol. ix, p. 105, pl. xxxvi, f. 104.

T. Tennesseénse.
J. A. N. S., (214) vol. v, 1862, p. 281, pl. xxxvi, f. 100; Obs. Gen. Unio, (215) vol. ix, p. 103, pl. xxxvi, f. 100.

T. Thorntonii.
J. A. N. S., (214) vol. v, 1862, pp. 284, 286, pl. xxxvi, f. 106; (243) vol. vi, 1866, p. 145; Obs. Gen. Unio, (215) vol. ix, pp. 106, 108, pl. xxxvi, f. 106; (244) vol. xi, p. 101.

Trypanostoma terebralis.
J. A. N. S, (258) vol. vi, 1868, p. 339, pl. liv, f. 22; Obs. Gen. Unio, (259) vol. xii, p. 99, pl. liv, f. 22.

T. uncialis.
J. A. N. S., (214) vol. v, 1862, p. 352; Obs. Gen. Unio, (215) vol. ix, p. 174.

T. undulata.
J. A. N. S., (214) vol. v, 1862, pp. 284, 295; (243) vol. vi, 1866, p. 146; Obs. Gen. Unio, (215) vol. ix, pp. 106, 117; (244) vol. xi, p. 102.

T. univittatum.
J. A. N. S., (243) vol. vi, 1866, p. 145, pl. xxiii, f. 58; Obs. Gen. Unio, (244) vol. xi, p. 101, pl. xxiii, f. 58.

T. Vanuxemii.
J. A. N. S., (214) vol. v, 1862, pp. 280, 282, 351, pl. xxxvi, f. 98; Obs. Gen. Unio, (215) vol. ix, pp. 102, 104, 173, pl. xxxvi, f. 98.

T. tortum.
J. A. N. S., (214) vol. v, 1862, p. 275, pl. xxxvi, f. 89; Obs. Gen. Unio, (215) vol. ix, p. 97, pl. xxxvi, f. 89.

T. trivittatum.
J. A. N. S., (214) vol. v. 1862, p. 282, pl. xxxvi, f. 102; Obs. Gen. Unio, (215) vol. ix, p. 104. pl. xxxvi, f. 102.

T. trochulus.
J. A. N. S., (214) vol. v, 1862, p. 282, pl. xxxvi, f. 103; Obs. Gen. Unio, (215) vol. ix, p. 104, pl. xxxvi, f. 103.

T. Troostii.
J. A. N. S., (214) vol. v, 1862, p. 285, pl. xxxvi, f. 107; Obs. Gen. Unio, (215) vol. ix, p. 107, pl. xxxvi, f. 107.

T. Tuomeyi.
J. A. N. S., (214) vol. v, 1862, p. 287, pl. xxxvi, f. 111; Obs. Gen. Unio, (215) vol. ix, p. 109, pl. xxxvi, f. 111.

T. venusta.
J. A. N. S., (243) vol. vi, 1866, pp. 149, 151, pl. xxiii, f. 66; Obs. Gen. Unio, (244) vol. xi, pp. 105, 107, pl. xxiii, f. 66.

T. viride.
J. A. N. S., (214) vol. v, 1862, p. 291, pl. xxxvi, f. 119; Obs. Gen. Unio, vol. ix, p. 113, pl. xxxvi, f. 119.

T. Wheatleyi.
J. A. N. S., (258) vol. vi, 1868, p. 338, pl. liv, f. 21; Obs. Gen. Unio, (259) vol. xii, p. 98, pl. liv, f. 21.

T. Whitei.
J. A. N. S., (214) vol. v, 1862, pp. 273, 353, pl. xxxvi, f. 85; Obs. Gen. Unio, (215) vol. ix, pp. 95, 175, pl. xxxvi, f. 85.

TUBA.
(18) Con. Geol., 1833, p. 127.

T. alternata.
(18) Con. Geol., 1833, p. 127, pl. iv, f. 118.

T. striata.
(18) Con. Geol., 1833, p. 128.

T. sulcata.
(18) Con. Geol., 1833, p. 128, pl. iv, f. 119.

Turbinella pyruloides.
(18) Con. Geol., 1833, p. 176.

TURBINOLIA.
(18) Con. Geol., 1833, p. 197.

Turbinolia crispa.
(18) Con. Geol., 1833, pp. 194, 195, 197.
T. Goldfussii.
(18) Con. Geol., 1833, pp. 194, 195, 197, pl. vi, f. 208.
T. Macluri.
(18) Con. Geol., 1833, pp. 193, 194, pl. vi, f. 206.
T. nana.
(18) Con. Geol., 1833, p. 195, pl. vi, f. 209.
T. pharetra.
(18) Con. Geol., 1833, pp. 194, 195, 197, pl. vi, f. 210.
T. Stokesii.
(18) Con. Geol., 1833, pp. 194, 195, 197, pl. vi, f. 207.
T. sulcata.
(18) Con. Geol., 1833, pp. 196, 197.
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(18) Con. Gen., 1833, pp 122, 126, 127.
T. arenosus.
(18) Con. Geol., 1833, p. 122.
T. canaliculatum.
(18) Con. Geol., 1833, p. 120.
T. lineata.
(18) Con Geol., 1833, p. 126, pl. iv, f. 116.
T. naticoides.
(18) Con. Geol., 1833, p. 125, pl. iv, f. 114.
T. nitens.
(18) Con. Geol., 1833, p. 125, pl. iv, f. 15.
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(18) Con. Geol., 1833, pp. 127, 128.
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(18) Con. Geol., 1833, p. 130; P. A. N. S., (145) vol. x, 1858, p. 221.
T. carinata.
(18) Con. Geol., 1833, p. 129, pl. iv, f. 120.
T. lineata.
(18) Con. Geol., 1833, pp. 130, 131, pl. iv, f. 121.
T. Mortoni.
(18) Con. Geol., 1833, p. 19.
T. strangulata.
(18) Con. Geol., 1833, p. 130.
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T. A. P. S., (9) vol. iii, 1827, pp. 260, 265; (12) vol. iii, 1829, pp. 406–425, 442, 443; (15) vol. iv, 1830, pp. 68, 93; (27) vol. vi, 1836, p 57, 1838, pp. 113, 115, 117, 118, 121, 142, 145; (43) vol. viii, 1841, p, 230; J. A. N. S, (133) vol. iii, 1857, pp. 317, 318; (147) vol. iv, 1858, pp. 44, 46; (168) vol. iv, 1859, p. 240; (221) vol. v, 1863, p. 421; Obs. Gen. Unio, (21) vol i, pp. 2–7, 20–39, 56, 57, 78; (29) vol. ii, pp. 58, 113, 115, 117, 118, 121, 142, 145; (43) vol. iii, p. 68; (150) vol. vi, pp. 37, 38, 44, 46; (170) vol. vii, p. 58; also Introduction; (205) vol. viii, Introduction; (222) vol. x, p. 57; (244) vol. xi, Introduction; P. Z. S., London, (60) vol. xviii, 1850, p. 197; P. A. N. S., (115) vol. viii, 1856, p. 213; (118) vol. ix, 1857, pp. 17, 18.

U. Abbevillensis.
P. A. N. S., (121) vol. ix, 1857, p. 84; J. A. N. S., (148) vol. iv, 1858, p. 51, pl. vi, f. 34; (221) vol. v, 1863, p. 445; Obs. Gen. Unio, (150) vol. vi, p. 51, pl. vi, f. 34; (222) vol. x, p. 81.
U. abductus.
T. A. P. S., (27) vol. vi, 1838, pp. 134, 151; Obs. Gen. Unio, (29) vol. ii, pp. 134, 151.
Unio abruptus.
T. A. P. S., (20) vol. v, 1833, p. 25; (27) vol. vi, 1838, p. 127; Obs. Gen. Unio, (21) vol. i, p. 137; (29) vol. ii, p. 127.
U. acuens.
J. A. N. S., (273) vol. viii, 1874, p. 27, pl. viii, f. 24; Obs. Gen. Unio, (275) vol. xiii, p, 35, pl. viii, f. 24.
U. acutirostris.
J. A. N. S., (257) vol. vi, 1868, p. 270, pl. xxxv, f. 84; Obs. Gen. Unio, (259) vol. xii, p. 30, pl. xxxv, f. 84.
U. acutissimus.
T. A. P. S., (15) vol. iv, 1830, p. 89, pl. x, f. 18; (27) vol. vi, 1838, pp. 122, 134, 145, 151; J. A. N. S., (133) vol. iii, 1857, p. 297; (148) vol. iv, 1858, p. 71; (159) vol. iv, 1859, p. 204; (221) vol. v, 1863, p. 411; (242) vol. vi, 1866, p. 46; Obs. Gen. Unio, (21) vol. i, p. 99, pl. x, f. 18; (29) vol. ii, pp. 122, 145; (150) vol. vi, pp. 17, 71; (170) vol. vii, p. 22; (222) vol. x, p. 47; (244) vol. xi, p. 50; P. A. N. S., (115) vol. viii, 1856, p. 214.
U. acutus.
T. A. P. S., (27) vol. vi, 1838, pp. 134, 151; Obs. Gen. Unio, (29) vol. ii, pp. 134, 151.
U. aduncus.
T. A. P. S., (27) vol. vi, 1838, pp. 134, 151; Obs. Gen. Unio, (29) vol. ii, pp. 134, 151.
U. æquatus.
P. A. N. S., (129) vol. ix, 1857, p. 170; J. A. N. S., (148) vol. iv, 1858, pp. 88, 89, pl. xix, f. 69; Obs. Gen. Unio, (150) vol. vi, pp. 88, 89, pl. xix, f. 69.
U. Æsopus.
T. A. P. S., (12) vol. iii, 1829, pp. 409, 411, 412, 413, 420; (15) vol. iv, 1830, p. 90; (27) vol. vi, 1836, p. 55; 1838, pp. 124, 145; (43) vol. viii, 1841, p. 231; (55) vol. x, 1845, p. 77; J. A. N. S., (221) vol. v, 1863, pp. 416, 417, 428, 432; Obs. Gen. Unio, (21) vol. i, pp. 23, 25, 26, 27, 34, 100; (27) vol. ii, pp. 55, 124, 145; (44) vol. iii, p. 69; (56) vol. iv, p. 77; (222) vol. x, pp. 52, 53, 64, 68.
U. Æthiops.
P. A. N. S., (176) vol. xii, 1860, p. 91; J. A. N. S., (220) vol. v, 1863, p. 377, pl. xli, f. 285; Obs. Gen. Unio, (222) vol. x, p. 13, pl. xli, f. 285.
U. aferulus.
J. A. N. S., (242) vol. vi, 1866, p. 34, pl. xiii, f. 34; Obs. Gen. Unio, (244) vol. xi, p. 38, pl. xiii, f. 34.
U. affinis.
P. A. P. S., (93) vol. v, 1852, p. 251; T. A. P. S., (79) vol. x, 1852, p. 271, pl. xix, f. 26; Obs. Gen. Unio, (83) vol. v, p. 27, pl. xix, f. 26; (170) vol. vii, p. 76; J. A. N. S., (168) vol. iv, 1859, p. 258.
U. Africanus.
P. A. N. S., (110) vol. viii, 1856, p. 94; J. A. N. S., (133) vol. iii, 1857, p. 300, pl. xxvii, f. 115; (242) vol. vi, 1866, p. 60; Obs. Gen. Unio, (150) vol. vi, p. 20, pl. xxvii, f. 15; (244) vol. xi, p. 64.
U. aheneus.
T. A. P. S., (54) vol. ix, 1843, p. 280, pl. xli, f. 9; Obs. Gen. Unio, (56) vol. iv, p. 280, pl. xli, f. 9.

Unio alasmodonta.
T. A. P. S., (12) vol. iii, 1829, p. 451; Obs. Gen. Unio, (21) vol. i, p. 65.

U. alatus.
P. A. P. S., (66) vol. v, 1851, p. 192; T. A. P. S., (12) vol. iii, 1829, pp. 407, 417, 424, 442, 448; (15) vol. iv, 1831, p. 106; (27) vol. vi, 1836, pp. 56, 74; 1838, pp. 118, 121, 146; (43) vol. viii, 1841, p. 231; J. A. N. S., (133) vol. iii, 1857, pp. 295, 314; (147) vol. iv, 1858, pp. 45, 48, pl. v, f. 25; (213) vol. v, 1862, p. 195; (221) vol. v, 1863, pp. 403, 425, 434, 436; Obs. Gen. Unio, (21) vol. i, pp. 21, 31, 38, 57, 62, 116; (29) vol. ii, pp. 56, 74, 118; (44) vol. iii, p. 69; (150) vol. vi, pp. 15, 34, 45, 48, pl. v, f. 25; (215) vol. ix, p. 17; (222) vol. x, pp. 39, 61, 70, 72; P. A. N. S., (135) vol. x, 1858, p. 13.

U. altilis.
T. A. P. S., (27) vol. vi, 1838, pp. 127, 146; Obs. Gen. Unio, (29) vol. ii, pp. 127, 146.

U. amabilis.
P. A. N. S., (235) vol. xvii, 1865, p. 89; J. A. N. S., (257) vol. vi, 1868, p. 257, pl. xxxi, f. 72; Obs. Gen. Unio, (259) vol. xii, p. 17, pl. xxxi, f. 72.

U. amœnus.
P. A. P. S., (35) vol. i, 1840, p. 286; T. A. P. S., (43) vol. viii, 1840, p. 200; Obs. Gen. Unio, (44) vol. iii, p. 38, pl. x, f. 12.

U. ambiguus.
T. A. P. S., (27) vol. vi, 1838, pp. 122, 148; Obs. Gen. Unio, (29) vol. ii, pp. 122, 148.

U. amnicus.
T. A. P. S., (27) vol. vi, 1838, p. 128; Obs. Gen. Unio, (29) vol. ii, p. 128.

U. amplus.
J. A. N. S., (273) vol. viii, 1874, p. 39, pl. xiii, f. 36; Obs. Gen. Unio, (275) vol. xiii, p. 43, pl. xiii, f. 36.

U. ampullaceus.
J. A. N. S., (257) vol. vi, 1868, p. 269, pl. xxxv, f. 83; Obs. Gen. Unio, (259) vol. xii, p. 29, pl. xxxv, f. 83.

U. amygdalum.
T. A. P. S., (54) vol. ix, 1843, pp. 275, 279, pl. xxxix, f. 1; (79) vol. x. 1852, p. 284; Obs. Gen. Unio, (56) vol. iv, pp. 275, 279, pl. xxxix, f. 1; (83) vol. v, p. 40; (205) vol. viii, p. 53; J. A. N. S., (189) vol. iv, 1860, p. 371.

U. anas.
T. A. P. S., (12) vol. iii, 1829, p. 424; Obs. Gen. Unio, (21) vol. i, p. 38.

U. anaticulus.
P. A. N. S., (192) vol. xiii, 1861, p. 40; J. A. N. S., (203) vol. v, 1861, p. 92, pl. xiii, f. 240; Obs. Gen. Unio, (205) vol. viii, p. 96, pl. xiii, f. 240.

U. Andersonensis.
J. A. N. S., (273) vol. viii, 1874, p. 36, pl. xii, f. 33; Obs. Gen. Unio, (275) vol. xiii, p. 40, pl. xii, f. 33.

U angulatus.
T. A. P. S., (27) vol. vi, 1838, pp. 121, 148; Obs. Gen. Unio, (29) vol. ii, pp. 121, 148.

Unio angusta.
T. A. P. S., (12) vol. iii, 1829, p. 425; (20) vol. v, 1833, p. 91; (27) vol. vi, 1838, pp. 130, 148; (43) vol. viii, 1840, p. 198; Obs. Gen. Unio, (21) vol. i, pp. 39, 203; (29) vol. ii, pp. 130, 148; (44) vol. iii, p. 36.

U. angustatus.
T. A. P. S., (15) vol. iv, 1831, p. 114, pl. xvii, f. 43; (27) vol. vi, 1838, pp. 131, 146; (148) vol. iv, 1858, pp. 68, 95; (189) vol. iv, 1860, p. 335; (221) vol. v, 1863, p. 405; Obs. Gen. Unio, (21) vol. i, p. 124, pl. xvii, f. 43; (29) vol. ii, pp. 131, 146; (150) vol. vi, p. 68, 83, 95; (205) vol. viii, p. 17; (222) vol. x, p. 41; J. A. N. S., (148) vol. iv, 1858, pp. 68, 83, 95; (189) vol. iv, 1860, p. 335; (221) vol. v, 1863, p. 405.

U. anodontina.
T. A. P. S., (12) vol. iii, 1829, p. 425; (20) vol. v, 1833, p. 92; (27) vol. vi, 1838, p. 132; Obs. Gen. Unio, (21) vol. i, pp. 39, 204; (29) vol. ii, p. 132.

U. anodontoides.
T. A. P. S., (15) vol. iv, 1830, pp. 81, 89, pl. viii, f. 11; (27) vol. vi, 1838, pp. 132, 146; (79) vol. x, 1852, p. 274; J. A. N. S., (147) vol. iv, 1858, p. 46, pl. v, f. 2; (221) vol. v, 1863, pp. 406, 407, 414; (242) vol. vi, new ser., 1866, p. 51; Obs. Gen. Unio, (21) vol. i, p. 91, pl. viii, ff. 11, 89; (29) vol. v, pp. 132, 146; (83) vol. v, p. 30; (150) vol. vi, p. 46, pl. v, f. 2; (222) vol. x, pp. 42, 43, 50; (244) vol. xi, p. 55; P. A. N. S., (135) vol. x, 1858, p. 13.

U. Anthonyi.
P. A. N. S., (192) vol. xiii, 1861, p. 41; J. A. N. S., (213) vol. v, 1862, p. 197, pl. xxvii, f. 266; Obs. Gen. Unio, (215) vol. ix, p. 19, pl. xxvii, f. 266.

U. antiquus.
T. A. P. S., (27) vol. vi, 1838, pp. 134, 151; Obs. Gen. Unio, (29) vol. ii, pp. 134, 151.

U. apicinus.
P. A. N. S., (119) vol. ix, 1857, p. 32; J. A. N. S., (148) vol. iv, 1858, p. 76, pl. xiv, f. 56; Obs. Gen. Unio, (150) vol. vi, p. 76, pl. xiv, f. 56.

U. apiculatus.
J. A. N. S., (213) vol. v, 1862, p. 208; (242) vol. vi, 1866, p. 34; T. A. P. S., (27) vol. vi, 1838, pp. 123, 146; Obs. Gen. Unio, (29) vol. ii, pp. 123, 146; (215) vol. ix, p. 30; (244) vol. xi, p. 38.

U. appressus.
J. A. N. S., (273) vol. viii, 1874, p. 12, pl. iii, f. 8; Obs. Gen. Unio, (275) vol. xiii, p. 16, pl. iii, f. 8.

U. apprimus.
J. A. N. S., (257) vol. vi, 1868, p. 263, pl. xxx, f. 78; Obs. Gen. Unio, (56) vol. iv, p. 74, pl v, f. 13; (259) vol. xii, p. 23, pl. xxx, f. 78; T. A. P. S., (55) vol. x, 1845, p. 74, pl. v, f. 13.

U. aquilus.
P. A. N. S., (129) vol. ix, 1857, p. 172; J. A. N. S., (148) vol. iv, 1858, p. 92, pl. xx, f. 72; Obs. Gen. Unio, (150) vol. vi, p. 92, pl. xx, f. 72.

Unio aratus.

T. A. P. S., (54) vol. ix, 1843, p. 282, pl. xlii, f. 12; J. A. N. S., (133) vol. iii. 1857, p. 313; (168) vol. iv, 1859, pp. 250, 253, 265; Obs. Gen. Unio, (56) vol. iv, p. 282, pl. xlii, f. 12; (150) vol.vi, p. 33; (170) vol.vii, pp. 68, 71, 83.

U. arcæformis.

T. A. P. S., (15) vol. iv, 1831, p. 116, pl. xvii, f. 44; (20) vol. v, 1832, pp. 35, 86; (27) vol. vi, 1836, p. 50; 1838, pp. 124, 146; (242) vol. xi, 1866, p. 41; Obs. Gen. Unio, (21) vol. i, pp. 126, 147, 198, pl. xvii, f. 44; (29) vol. ii, pp. 50, 124, 146; (244) vol. xi, p.45.

U. arctatus.

T. A. P. S., (27) vol. vi, 1838, pp. 133, 146; Obs. Gen. Unio, (29) vol. ii, pp. 133, 146.

U. arctior.

T. A. P. S., (27) vol. vi, 1834, p. 10, pl. iv, f. 10; 1838, pp. 133, 146; (79) vol. x, 1852, p 273; J. A. N. S., (148) vol. iv, 1858, p. 54; Obs. Gen. Unio, (29) vol. ii, pp. 10, 133, 146, pl. iv, f. 10; (83) vol. vi, p. 29; (150) vol. vi, p. 54.

U. arcus.

T. A. P. S., (27) vol. vi, 1838, pp 133, 146; Obs. Gen. Unio, (29) vol. ii, pp. 133, 146.

U. argenteus.

P. A. P. S., (40) vol. ii, 1841, p. 82; T. A. P.. S., (43) vol. viii, 1841, p. 242, pl. xxv, f. 57; J. A. N. S., (148) vol. iv, 1858, p. 69; (189) vol. iv, 1860, p. 349; Obs. Gen. Unio, (44) vol. iii, p. 80, pl. xxv, f. 57; (150) vol. vi, p. 69; (205) vol. viii, p. 31.

U. argyratus.

T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii p. 144.

U. Arkansasensis.

J. A. N. S., (213) vol. v, 1862, p. 206, pl. xxx, f. 275; Obs. Gen. Unio, (215) vol. ix, p. 28, pl. xxx, f. 275.

U. asper.

T. A. P. S., (15) vol. iv, 1830, p. 85, pl. ix, f. 15; (27) vol. vi, 1838, pp. 123, 146; J. A. N. S., (221) vol. v, 1863, p. 437; Obs. Gen. Unio, (29) vol, ii, pp. 123, 146; (222) vol. x, p. 73.

U. asperatus.

P. A. N. S., (192) vol. xiii, 1861, p. 41; J. A. N. S. (203) vol. v, 1861, p. 68, pl. vii, f. 218; Obs. Gen. Unio, (205) vol. viii, p. 72, pl. vii, f. 218.

U. asperulus.

J. A. N. S., (257) vol. vi, 1868, p. 280, pl. xxxviii, f. 94: Obs. Gen. Unio, (259) vol. xii, p. 40, pl. xxxviii, f. 94.

U. asperrimus.

T. A. P. S., (15) vol. iv, 1830, p. 71, pl. v, f. 3; (20) vol. v, 1832, p. 38; (27) vol. vi, 1836, p. 56; 1838, pp. 119, 123, 146; (43) vol. viii, 1841, p. 231; P. A. N. S., (135) vol. x, 1858, pp. 13, 14; J. A. N. S., (189) vol. iv, 1860, p. 372; Obs. Gen. Unio, (15) vol. i, pp. 81, 150, pl. v, f. 3; (29) vol. ii, pp. 56, 119, 123, 146; (44) vol. iii, p. 69; (205) viii, p. 54.

Unio ater.

T. A. P. S., (12) vol. iii, 1829, pp. 409, 412, 420, 426; pl. vii, f. 9; (20) vol. v, 1833, p. 87; (27) vol. vi, 1836, p. 49; 1838, pp. 128, 133; Obs. Gen. Unio, (21) vol. i pp. 23, 26, 34, 40, 199, pl.vii, f. 9; (29) vol. ii, pp. 49, 128, 133.

Unio atratus.

T. A. P. S., (27) vol. vi, 1838, pp. 130, 148; J. A. N. S., (220) vol. v, 1863, p. 390; Obs. Gen. Unio, (29) vol. ii, pp. 130, 148; (222) vol. x, p. 26.

U. atrocostatus.

T. A. P. S., (55) vol. x, 1845, p. 70, pl. ii, f. 5; J. A. N. S., (148) vol. iv, 1858, p. 55; (221) vol. v, 1863, p. 437; Obs. Gen. Unio, (56) vol. iv, p. 70, pl. ii, f. 5; (150) vol. vi, p. 55; (222) vol. x, p. 73.

U. atromarginatus

P. A. P. S., (35) vol. i, 1840, p. 288; T. A. P. S., (43) vol. viii, 1840, p. 207, pl. xiii, f. 21; Obs. Gen. Unio, (44) vol. iii, p. 45, pl. xiii, f. 21.

U. antrosa.

T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

U. atroviolacea.

T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

U. attenuatus.

T. A. P. S., (27) vol. vi, 1838, p. 144; J. A. N. S., (273) vol. viii, 1874, p. 41, pl. xiv, f. 38; Obs. Gen. Unio, (29) vol. ii, p. 144; (275) vol. xiii, p. 45, pl. xiv, f. 38.

U. auratus.

T. A. P. S., (27) vol. vi, 1838, pp. 130, 140, 444; Obs. Gen. Unio, (29) vol. ii, pp. 130, 140, 144.

U. aureus.

P. A. N. S., (151) vol. xi, 1859, p. 112; J. A. N. S., (213) vol. v, 1862, p. 195, pl. xxvi, f. 264; (242) vol. vi, 1866, p. 27; Obs. Gen. Unio, (215) vol. ix, p. 17, pl. xxvi, f. 264; (244) vol. xi, p. 31.

U. auricularis.

T. A. P. S., (27) vol. vi, 1838, p. 134; Obs. Gen. Unio, (29) vol. ii, p. 134.

U. Australis.

T. A. P. S., (12) vol. iii, 1829, p. 425; (20) vol. v, 1833, p. 92; (27) vol. vi, 1838, pp. 127, 148; Obs. Gen. Unio, (21) vol. i, pp. 39, 204; (29) vol. ii, pp. 127, 148.

U. Averyi.

J. A. N. S., (168) vol. iv, 1859, p. 269, pl. xliv, f. 149; Obs. Gen. Unio, (170) vol. vii, p. 87; pl. xliv, f. 149.

U. Bairdianus.

P. A. N. S., (125) vol. ix, 1857, p. 102; J. A. N. S., (189) vol. iv, 1860, pp. 360, 361, pl. lxi, f. 186; Obs. Gen. Unio, (205) vol. viii, pp. 42, 43, pl. lxi, f. 186.

U. Baldwinensis.

P. A. N. S., (156) vol. xi, 1859, p. 170; J. A. N. S., (205) vol. viii, p. 12, pl. li, f. 155.

U. Barnesianus.

T. A. P. S., (27) vol. vi, 1836, p. 31, pl. x, f. 26; 1838, pp. 125, 146; (43) vol. viii, 1840, p. 194; J. A. N. S., (203) vol. v, 1861, pp, 82, 83; Obs. Gen. Unio, (29) vol. ii, pp. 31, 125, 146, pl. x, f. 26; (44) vol. iii, p. 32; (205) vol. viii, pp. 86, 87.

U. Barrattianus.

T. A. P. S., (79) vol. x, 1852, p. 278; Obs. Gen. Unio, (83) vol. v, p. 34.

Unio Barrattii.

T. A. P. S., (79) vol. x, 1852, p. 256, pl. xiii, f. 5; P. A. P. S., (93) vol. v, 1852, p. 251; J. A. N. S., (148) vol. iv, 1858, p. 58; (221) vol. v. 1863. p. 408; Obs. Gen. Unio, (83) vol. v, p. 12, pl. xiii, f. 5; (150) vol. vi, p. 58; (222) vol. x, p. 44.

U. basalis.

J. A. N. S., (273) vol. viii, 1874, p. 48, pl. xvi, f. 46; Obs. Gen. Unio, (275) vol. xiii, p. 32, pl. xvi, f. 46.

U. Batava.

T. A. P. S., (12) vol. iii, 1829, p. 424; (20) vol. v. 1833, pp. 88, 90; (27) vol. vi, 1838, pp. 128, 145; (54) vol. ix, 1843, p. 276; J. A. N. S., (133) vol. iii, 1857, p. 301; (242) vol. vi, 1866, pp. 53, 54, 57; Obs. Gen. Unio, (21) vol. i, pp. 38, 200, 202; (29) vol. ii, pp. 128, 145; (56) vol. iv, p. 276; (150) vol. vi, p. 21; (244) vol. xi, pp. 57, 58, 61.

U. Beadleianus.

P. A. N. S., (192) vol. xiii, 1861, p. 39; J. A. N. S., (203) vol. v, 1861, p. 94, pl. xiv, f. 242; Obs. Gen. Unio, (205) vol. viii, p. 98, pl. xiv, f. 242.

U. Bealei.

J. A. N. S., (213) vol. v, 1866, p. 204, pl. xxx, f. 273; Obs. Gen. Unio, (215) vol. ix, p. 26, pl. xxx, f. 273.

U. Beaverensis.

J. A. N. S., (257) vol. vi, 1868, p. 297, pl. xliv, f. 109; Obs. Gen. Unio, (259) vol. xii, p. 57, pl. xliv, f. 109.

U. bellulus.

J. A. N. S., (273) vol. viii, 1874, p. 50, pl. xvii, f. 48; Obs. Gen. Unio, (275) vol. xiii, p. 54, pl. xvii, f. 48.

U. Benedictii.

J. A. N. S., (242) vol. vi, 1866, p. 26; Obs. Gen. Unio, (244) vol. xi, p. 30.

U. Bengalensis.

T. A. P. S., (27) vol. vi, 1834, p. 3, pl. ii, f. 3, 1838, pp. 128, 145; P. Z. S. London, (60) vol. xviii, 1856, p. 198; J. A. N. S., (168) vol. iv, 1859, p. 240; Obs. Gen. Unio, (29) vol. ii, pp. 3, 128, 145, pl. ii, f. 3; (170) vol. vii, p. 58.

U. Berlandierii.

P. A. N. S., (125) vol. ix, 1857, p. 101; J. A. N. S., (189) vol. iv, 1860, pp. 361, 369, pl. lxv, f. 194; Obs. Gen. Unio, (205) vol. viii, pp. 43, 51, pl. lxv, f. 194.

U. bialata.

T. A. P. S., (27) vol. vi, 1838, p. 136; Obs. Gen. Unio, (29) vol. ii, p. 136.

U. biangularis.

P. A. P. S., (35) vol. i, 1840. p. 288.

U. biangulatus.

T. A. P. S., (43) vol. viii, 1840, p. 197, pl. ix, f. 8; Obs. Gen. Unio, (44) vol. iii, p. 35, pl. ix, f. 35.

U. bicolor.

T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

U. biemarginatus.

P. A. N. S., (120) vol. ix, 1851, p. 83; J. A. N. S., (189) vol. iv, 1860, p. 372; (203) vol. v, 1861, p. 63; (242) vol. vi, 1866, p. 47, pl. xvi, f. 45; Obs. Gen. Unio, (205) vol. viii, pp. 54, 67; (244) vol. xi, p. 51, pl. xvi, f. 45.

Unio brevialis.

T. A. P. S., (12) vol. iii, 1829, p. 422; Obs. Gen. Unio, (21) vol. i, p. 36.

U. Bigbyensis.

P. A. P. S., (39) vol. ii, 1841, p. 30; T. A. P. S., (43) vol. viii, 1841, p. 237, pl. xxii, f. 51; J. A. N. S., (148) vol. iv, 1858, p. 59; (203) vol. v, 1861, p. 86; Obs. Gen. Unio, (44) vol. iii, p. 75, pl. xxii, f. 51; (150) vol. vi, p. 59; (205) vol. viii, p. 90.

U. bilineatus.

T. A. P. S., (27) vol. vi, 1838, pp. 133, 145; Obs. Gen. Unio, (29) vol. ii, pp. 133, 145.

U. biloba.

T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

U. Binneyi.

T. A. P. S., (55) vol. x, 1845, p. 77, pl. vi, f. 18; Obs. Gen. Unio, (56) vol. iv, p. 77, pl, vi, f. 18.

U. Bisselianus.

J. A. N. S., (257) vol. vi, 1868, p. 277, pl. xxxvii, f. 90; Obs. Gen. Unio, (259) vol. xii, p. 37, pl. xxxvii, f. 90.

U. Blandianus.

P. A. N. S., (116) vol. viii, 1856, p. 263; (119) vol. ix, 1857, p. 31; J. A. N. S., (148) vol. iv, 1858, p. 65, pl. xi, f. 47; (189) vol. iv, 1860, p. 358; Obs. Gen. Unio, (150) vol. vi, p. 65, pl. xi, f. 47; (205) vol. viii, p. 40.

U. Blandingianus.

T. A. P. S., (20) vol. v, 1834, p. 101, pl. xv, f. 44; (27) vol. vi, 1838, pp. 130, 146; (54) vol. ix, 1843, p. 275; J. A. N. S., (221) vol. v, 1863, pp. 22, 435; (242) vol. vi, 1866, p. 22; Obs. Gen. Unio, (21) vol. i, p. 213; (29) vol. ii, pp. 130, 146; (56) vol. iv, p. 275; (222) vol. x, p. 71; (244) vol. xi, p. 26.

U. Boroughianus.

J. A. N. S., (213) vol. v, 1862, p. 190; Obs. Gen. Unio, (215) vol. ix, p. 12.

U. Bourguignatianus.

J. A. N. S., (242) vol. vi, 1866, pp. 51, 54; Obs. Gen. Unio, (244) vol. xi, pp. 55, 58, pl. xviii, f. 51.

U. Bournianus.

P. A. P. S., (35) vol. i, 1840, p. 288; T. A. P. S., (43) vol. viii, 1840, p. 213, pl. xv, f. 28; Obs. Gen. Unio, (44) vol. iii, p. 51, pl. xv, f. 28.

U. Boydianus.

P. A. P. S., (35) vol. i, 1840, p. 286; T. A. P. S., (43) vol. viii, 1840, p. 216, pl. xvi, f. 32; Obs. Gen. Unio, (44) vol. iii, p. 54, pl. xvi, f. 32.

U. Boykinianus.

P. A. P. S., (35) vol. i, 1840, p. 288; T. A. P. S., (43) vol. viii, 1840, p. 208, pl. xiii, f. 22; J. A. N. S., (221) vol. v, 1863, p. 403; Obs. Gen. Unio, (44) vol. iii, p. 46, pl. xiii, f. 22; (222) vol. x, p. 39.

U. Brazosensis.

J. A. N. S., (258) vol. vi, 1868, p. 309, pl. xlviii, f. 122; Obs. Gen. Unio, (259) vol. xii, p. 69, pl. xlviii, f. 122.

U. brevialis.

T. A. P. S., (20) vol. v, 1833, p. 88; (27) vol. vi, 1838, pp. 126, 130, 131; Obs. Gen. Unio, (21) vol. i, p. 200; (29) vol. ii, pp. 126, 130, 131.

Unio brevidens.

T. A. P. S., (15) vol. iv, 1830, p. 75, pl. vi, f. 6; (20) vol. v, 1833, p. 85; (27) vol. vi, 1836, p. 50; 1838, pp. 129, 146; (43) vol. viii, 1840, p. 205; J. A. N. S., (159) vol. iv, 1859, p. 219; Obs. Gen. Unio, (21) vol. i, pp. 85, 197, pl. vi, f. 6; (29) vol. ii, pp. 50, 129, 146; (44) vol. iii, p. 43; (170) vol. vii, p. 37.

U. brevis.

J. A. N. S., (273) vol. viii, 1874, p. 35, pl. xii, f. 32; Obs. Gen. Unio, (275) vol. xiii, p. 39, pl. xii, f. 32.

U. Brownianus.

T. A. P. S., (27) vol. vi, 1838, pp. 108, 121, 148, pl. xxiv, f. 116; Obs. Gen. Unio, (29) vol. ii, pp. 108, 121, 148, pl. xxiv, f. 116.

U. Brownii.

P. A. N. S., (110) vol. viii, 1856, p. 95; J. A. N. S., (133) vol. iii, 1857, p. 307, pl. xxix, f. 22; (168) vol. iv, 1859, p. 252; Obs. Gen. Unio, (150) vol. vi, p. 27, pl. xxix, f. 22; (170) vol. vii, p. 70.

U. Bruguierianus.

J. A. N. S., (242) vol. vi, 1866, p. 54; Obs. Gen. Unio, (244) vol. xi, p. 58.

U. Brumleyanus.

P. A. P. S., (40) vol. ii, 1841, p. 82.

U. Brumbyanus.

T. A. P. S., (43) vol. viii, 1841, p. 245, pl. xxvi, f. 62; J. A. N. S., (189) vol. iv, 1860, p. 344; (203) vol. v, 1861, pp. 89, 101; Obs. Gen. Unio, (44) vol. iii, p. 83, pl. xxvi, f. 62; (205) vol. viii, pp. 26, 93, 105.

U. Buckleyi.

T. A. P. S., (54) vol. ix, 1843, p. 276, pl. xxxix, f. 2; Obs. Gen. Unio, (56) vol. iv, p. 276, pl. xxxix, f. 2.

U. Buddianus.

T. A. P. S., (54) vol. ix, 1843, p. 277, pl. xl, f. 5; Obs. Gen. Unio, (56) vol. iv, p. 277, pl. xl, f. 5.

U. bulbosus.

P. A. N. S., (129) vol. ix, 1857, p. 172; J. A. N. S., (159) vol. iv, 1859, p. 191, pl. xxi, f. 75; Obs. Gen. Unio, (170) vol. vii, p. 9, pl. xxi, f. 75.

U. bullata.

T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

U. bulloides.

P. A. N. S., (158) vol. xi, 1859, p. 187; J. A. N. S., (168) vol. iv, 1859, p. 264, pl. xlii, f. 144; Obs. Gen. Unio, (170) vol. vii, p. 82, pl. xlii, f. 144.

U. Burkensis.

P. A. N. S., (151) vol. xi, 1859, p. 112; J. A. N. S., (159) vol. iv, 1859, p. 215, pl. xxvii, f. 95; (242) vol. vi, 1866, p. 13; Obs. Gen. Unio, (170) vol. vii, p. 33, pl. xxvii, f. 95; (244) vol xi, p. 17.

U. Borroughianus.

T. A. P. S., (20) vol. v, 1833, pp. 61, 67, pl. x, f. 27; (27) vol. vi, 1838, pp. 129, 148; J. A. N. S., (133) vol. iii, 1857, pp. 308, 309; (168) vol. iv, 1859, p. 272; (220) vol. v, 1863, p. 387; Obs. Gen. Unio, (21) vol. i, pp. 173, 179, pl. x, f. 27; (29) vol. ii, pp. 129, 148; (150) vol. vi, pp. 28, 29; (170) vol. vii, p. 90; (222) vol. x, p. 23.

Unio buxeus.

P. A. P. S., (93) vol. v, 1852, p. 251; T. A. P. S., (79) vol. x, 1852, p. 261, pl. xv, f. 13; J. A. N. S., (148) vol. iv, p. 80; Obs. Gen. Unio, (83) vol. v, p. 17; (150) vol. vi, p. 80.

U. cacao.

P. A. N. S., (154) vol. xi, 1859, p. 154; J. A. N. S., (189) vol. iv, 1860, p. 344, pl. lvi, f. 169; (203) vol. v, 1861, p. 90; Obs. Gen. Unio, (205) vol. viii, pp. 26, 94, pl. lvi, f. 169.

U. cæruleus.

T. A. P. S., (15) vol. iv, 1830, pp. 92, 95, pl. xiii, f. 25; (20) vol. v, 1832, p. 34; (27) vol. vi, 1838, pp. 128, 145; J. A. N. S., (133) vol. iii, 1857, pp. 294, 300, 303, 311; Obs. Gen. Unio, (21) vol. i, pp. 34, 102, 105, 146, pl. xiii, f. 25; (29) vol. ii, pp. 128, 145; (150) vol. vi, p. 20.

U. Caffer.

T. A. P. S., (133) vol. iii, 1857, pp. 301, 302; Obs. Gen. Unio, (150) vol. vi, pp. 21, 22.

U. Cahabensis.

J. A. N. S., (273) vol. viii, 1874, p. 17; Obs. Gen. Unio, (275) vol. xiii, p. 21, pl. v, f. 14.

U. Caillaudii.

T. A. P. S., (27) vol. vi, 1838, pp. 132, 148; (79) vol. x, 1852, p. 282; J. A. N. S., (133) vol. iii, 1857, p. 298; Obs. Gen. Unio, (29) vol. ii, pp. 132, 148; (83) vol. v, p. 38; (150) vol. vi, p. 18.

U. calceolus.

T. A. P. S., (9) vol. iii, 1827, p. 265, pl. iii, f. 1; (12) vol. iii, 1829, pp. 409, 411, 413, 439; (15) vol. iv, 1830, p. 67; (27) vol. vi, 1836, pp. 33, 43, 55, 56; Obs. Gen. Unio, (21) vol. i, pp. 7, 23, 25, 27, 53, 77, pl. iii, f. 1; (27) vol. vi, 1838, pp. 33, 43, 55, 56, 135.

U. Caldwellii.

P. A. N. S., (140) vol. x, 1858, p. 118; J. A. N. S., (168) vol. iv, 1859, p. 265, pl. xliii, f. 145; Obs. Gen. Unio, (170) vol. vii, p. 83, pl. xliii, f. 145.

U. calendis.

T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

U. caliginosus.

T. A. P. S., (55) 1845, p. 79, pl. vii, f. 21; Obs. Gen. Unio, (56) vol. iv, p. 79, pl vii, f. 21.

U. callosus.

P. A. P. S., (39) vol. ii, 1841, p. 31; T. A. P. S., (43) vol. viii, 1841, p. 239, pl. xxiii, f. 54; J. A. N. S., (213) vol. v, 1862, p. 205; Obs. Gen. Unio, (44) vol. iii, p. 77, pl. xxiii, f. 54; (215) vol. ix, p. 27.

U. Cambodiensis.

P. A. N. S., (112) vol. viii, 1856, p. 103; J. A. N. S., (133) vol. iii, 1857, p. 313, pl. xxx, f. 28; (168) vol. iv, 1859, p. 249; Obs. Gen. Unio, (150) vol. vi, p. 33, pl. xxx, f. 28; (170) vol. vii, p. 67.

U. camelopardilis.

P. A. N. S., (177) vol. xii, 1860, p. 92; J. A. N. S., (189) vol. iv, 1860, pp. 353, 355, pl. lix, f. 180; Obs. Gen. Unio, (205) vol. viii, pp. 35, 37, pl. lix, f. 180.

Unio camelus.

T. A. P. S., (20) vol. v, 1834, p. 102, pl. xv, f. 45; (27) vol. vi, 1838, pp. 125, 146; (43) vol. viii, 1841, p. 231; Obs. Gen. Unio, (21) vol. i, p. 214, pl. xv, f. 45; (29) vol. ii, pp. 125, 146; (44) vol. iii, p. 69.

U. camptodon.

T. A. P. S., (27) vol. vi, 1838, pp. 129, 146; (55) vol. x, 1845, p. 74; J. A. N. S., (148) vol. iv, 1858, pp. 53, 76; (221) vol. v, 1863, p. 416; Obs. Gen. Unio, (29) vol. ii, pp. 129,146; (56) vol. iv, p. 74; (150) vol. vi, pp. 53, 76; (222) vol. x, p. 52.

U. Canadensis.

P. A. N. S., (122) vol. ix. 1857, p. 85; J. A. N. S., (168) vol. iv, 1859, p. 268, pl. xliv, f. 148; Obs. Gen. Unio, (170) vol. vii, p. 86, pl. xliv, f. 148.

U. capax.

T. A. P. S., (27) vol. vi, 1838, p. 125, 126; (79) vol. x, 1852, p. 266; Obs. Gen. Unio, (29) vol. ii, pp. 125, 126; (83) vol. v, p. 22.

U. caperatus.

T. A. P. S., (55) vol. x, 1845, p. 75, pl. v, f. 14; (79) vol. x, 1852, p. 267; Obs. Gen. Unio, (56) vol. iv, p. 75, pl. v, f. 14; (83) vol. v, p. 23.

U. Capigliolo.

T. A. P. S., (27) vol. vi, 1838, p. 132; Obs. Gen. Unio, (29) vol. ii, p. 132.

U. capillaris.

T. A. P. S., (20) vol. v, 1832, p. 29, pl. ii, f. 2; (27) vol. vi, 1836, p. 50, 1838, p. 131; J. A. N. S., (221) vol. v, 1863, p. 442; Obs. Gen. Unio, (21) vol. i, p. 50, 141, pl. ii, f. 2; (29) vol. ii, p. 131; (222) vol. x, p. 78.

U. capillus.

T. A. P. S., (27) vol. vi, 1838, p. 129; J. A. N. S., (221) vol. v, 1863, p. 423; Obs. Gen. Unio, (29) vol. ii, p. 129; (222) vol. x, p. 59.

U. capsœformis.

T. A. P. S., (20) vol. v, 1832, p. 31, pl. ii, f. 4; (27) vol. v, 1836, pp. 51, 96; 1838, pp. 127, 146; J. A. N. S., (203) vol. v, 1861, pp. 63, 65; Obs. Gen. Unio, (21) vol. i, p. 143, pl. ii, f. 4; (29) vol. ii, pp. 51, 96, 127, 146; (205) vol. viii, pp. 67, 69.

U. carbonarius.

T. A. P. S., (27) vol. vi, 1836, p. 37, pl. xi, f. 32; 1838, pp. 125, 146; Obs. Gen. Unio, (29) vol. ii, pp. 37, 125, 146, pl. xi, f. 32.

U. cardium.

T. A. P. S., (27) vol. vi, 1838, pp. 125, 144; Obs. Gen. Unio, (29) vol. ii, pp. 125, 144.

U. carinatus.

T. A. P. S., (12) vol. iii, 1829, p. 417; (27) vol. vi, 1838, p. 127; Obs. Gen. Unio, (21) vol. i, p. 31; (29) vol. ii, p. 127.

U. carinifera.

T. A. P. S., (12) vol. iii, 1829, pp. 416, 422; (20) vol. v, 1833, p. 89; (27) vol. vi, 1838, p. 130; Obs. Gen. Unio, (21) vol. i, pp. 30, 36, 201; (29) vol. ii, p. 130.

Unio cariosus.

T. A. P. S., (12) vol. iii, 1829, pp. 409, 411, 414, 417, 418, 423, 424, 425, 426, 435; (15) vol. iv, 1830, pp. 75, 107; (20) vol. v, 1832, p. 24; 1833, pp. 74, 92; 1834, p. 101; (27) vol. vi, 1836, pp. 49, 53, 54, 55; 1838, pp. 126, 135, 146; (43) vol. viii, 1841, p. 236; (79) vol. x, 1852, pp. 261, 270, 271, 274; Obs. Gen. Unio, (21) vol. i, pp. 23, 24, 28, 31, 32, 37, 38, 39, 40, 49, 75, 107, 136, 213; (29) vol. ii, pp. 49, 50, 51, 53, 54, 55, 126, 135, 146; (44) vol. iii, pp. 39, 74; (83) vol. v, pp. 17, 26, 27, 30; (205) vol. viii, pp. 24, 74, 79, 103; (222) vol. x, p. 71; J. A. N. S., (189) vol. iv, 1860, p. 342; (203) vol. v, 1861, pp. 70, 75, 99; (221) vol. v, 1863, p. 435.

U. Carolinensis.

T. A. P. S., (27) vol. vi, 1834, p. 5; 1838, p. 133; Obs. Gen. Unio, (29) vol. ii, pp. 5, 133.

U. Carolinianus.

T. A. P. S., (12) vol. iii, 1829, p. 416; (27) vol. vi, 1838, p. 129; Obs. Gen. Unio, (21) vol. i, p. 30; (29) vol. ii, p. 129.

U. Carynthiacus.

T. A. P. S., (27) vol. vi, 1838, p. 128; J. A. N. S., (133) vol. iii, 1857, p. 301; Obs. Gen. Unio, (29) vol. ii, p. 128; (150) vol. vi, p. 21.

U. castaneus.

T. A. P. S., (15) vol. iv, 1830, p. 91, pl. xi, f. 21; (27) vol. vi, 1838, pp. 126, 144, 146; (55) vol. x, 1845, p. 82; J. A. N. S., (189) vol. iv, 1860, p. 344; (203) vol. v, 1861, pp. 58, 104; Obs. Gen. Unio, (21) vol. i, p. 101, pl. xi, f. 21; (29) vol. ii, pp. 126, 144, 146; (56) vol. iv, p. 82; (205) vol. viii, pp. 26, 62, 108; (244) vol. ix; Errata.

U. castanus.

J. A. N. S., (221) vol. v, 1863, p. 439; Obs. Gen. Unio, (222) vol. x, p. 75; (244) vol. xi; Errata.

U. castus.

P. A. N. S., (185) vol. xii, 1860, p. 306; J. A. N. S., (189) vol. iv, 1860, p. 349, pl. lvii, f. 174; Obs. Gen. Unio, (205) vol. viii, p. 31, pl. lvii, f. 174.

U. Catawbensis.

P. A. N. S., (127) vol. ix, 1857, p. 104; J. A. N. S., (203) vol. v, 1861, p. 54, pl. i, f. 200; Obs. Gen. Unio, (205) vol. viii, p. 58, pl. i, f. 200.

U. catillus.

T. A. P. S., (27) vol. vi, 1838, p. 131; Obs. Gen. Unio, (29) vol. ii, p. 131.

U. caudatus.

T A. P. S., (27) vol. vi, 1838, p. 121; Obs. Gen. Unio, (29) vol. ii, p. 121.

U. Charlottensis.

J. A. N. S., (242) vol. vi, 1866, p. 8, pl. ii, f. 5; Obs. Gen. Unio, (244) vol. xi, p. 12, pl. ii, f. 5.

U. Charruanus.

T. A. P. S., (27) vol. vi, 1838, pp. 128, 148; Obs. Gen. Unio, (29) vol. ii, pp. 128, 148; (150) vol. vi, p. 30; J. A. N. S., (133) vol. iii, 1857, p. 310.

U. Chathamensis.

J. A. N. S., (242) vol. vi, 1866, p. 21, pl. vi, f. 19; Obs. Gen. Unio, (244) vol. xi, p. 25, pl. vi, f. 19.

Unio Chattanoogaensis.

P. A. N. S., (143) vol. x, 1858, p. 166; J. A. N. S., (159) vol. iv, 1859, p. 209, pl. xxv, f. 90; Obs. Gen. Unio, (170) vol. vii, p. 27, pl. xxv, f. 90.

U. Chickasawhensis.

P. A. N. S., (192) vol. xiii, 1861, p. 39; J. A. N. S., (203) vol. v, 1861, p. 101, pl. xvi, f. 250; Obs. Gen. Unio, (205) vol. viii, p. 105, pl. xvi, f. 250.

U. Childreni.

T. A. P. S., (27) vol. vi, 1838, pp. 127, 148; Obs. Gen. Unio, (29) vol. ii, pp. 127, 148.

U. Chinensis.

J. A. N. S., (258) vol. vi, 1868, p. 325, pl. lii, f. 138; Obs. Gen. Unio, (259) vol. xii, p. 85, pl. liii, f. 138.

U. chloris.

T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

U. Chunii.

P. A. N. S., (200) vol. xiii, 1861, p. 392; J. A. N. S., (213) vol. v, 1862, p. 196, pl. xxvii, f. 265; Obs. Gen. Unio, (215) vol. ix, p. 18, pl. xxvii, f. 265.

U. cicatricosus.

T. A. P. S., (27) vol. vi, 1838, p. 124; Obs. Gen. Unio, (29) vol. ii, p. 124.

U. cicur.

P. A. N. S., (192) vol. xiii, 1861, p. 39; J. A. N. S., (203) vol. v, 1861, p. 93, pl. xiii, f. 241; (242) vol. vi, 1866, p. 20; Obs. Gen. Unio, (205) vol. viii, p. 97, pl. xiii, f. 241; (242) vol. xi, p. 24.

U. Cincinnatiensis.

P. A. P. S., (35) vol. i, 1840, p. 285; T. A. P. S., (43) vol. viii, 1840, p. 194, pl. viii, f. 4.

U. cinerescens.

T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

U. cinnamonicus.

P. A. N. S., (192) vol. xiii, 1861, p. 39; J. A. N. S., (203) vol. v, 1861, p. 100, pl. xvi, f. 248; Obs. Gen. Unio, (205) vol. viii, p. 104, pl. xvi, f. 248.

U. circulus.

T. A. P. S., (12) vol. iii, 1829; pp. 406, 409, 412, 414, 420, 422, 423, 433, pl. ix, f. 14; (15) vol. iv, 1830, pp. 77, 80, 91; 1831, p. 106; (27) vol. vi, 1838, pp. 119, 130, 146; (43) vol. viii, 1841, p. 231; J. A. N. S., (168) vol. iv, 1859, p. 252; (189) vol. iv, 1860, p. 349; (203) vol. v, 1861, pp. 74, 94; (221) vol. v, 1863, p. 438; (242) vol. vi, 1866, p. 19, pl. vi, f. 17; Obs. Gen. Unio, (21) vol. i, pp. 20, 23, 26, 28, 34, 36, 37, 47, 87, 90, 101, pl. ix, f. 14; (29) vol. ii, pp. 119, 130, 146; (44) vol. iii, p. 69; (170) vol. viii, p. 70; (205) vol. viii, pp. 41, 74, 78, 98; (222) vol. x, p. 74; (244) vol. xi, p. 23, pl. vi, f. 17.

U. circumactus.

J. A. N. S., (273) vol. viii, 1874, p. 15, pl. iv, f. 11; Obs. Gen. Unio, (275) vol. xiii, p. 19, pl. iv, f. 11.

Unio cirratus.

J. A. N. S., (274) vol. viii, 1874, p. 55, pl. xix, f. 53; Obs. Gen. Unio, (275) vol. xiii, p. 59, pl. xix, f. 53.

U. clavus.

T. A. P. S., (12) vol. iii, 1829, p. 422; (20) vol. v, 1833, p. 89; (27) vol. vi, 1838, pp. 55, 126, 146; J. A. N. S., (159) vol. iv, 1859, p. 210; (189) vol. iv, 1860, p. 352; (221) vol. v, 1863, p. 441; (242) vol. vi, 1866, pp. 40, 43; Obs. Gen. Unio, (21) vol. i, pp. 36, 201; (29) vol. ii, pp. 55, 126, 146; (170) vol. vii, p. 28; (205) vol. viii, 34; (222) vol. x, p. 77; (244) vol. xi, pp. 44, 47.

U. Cliffordiana.

T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

U. Clinchensis.

J. A. N. S., (257) vol. vi, 1868, p. 278, pl. xxxvii, f. 91; Obs. Gen. Unio, (259) vol. xii, p. 38, pl. xxxvii, f. 91.

U. Claibornensis.

T. A. P. S., (27) vol. vi, 1838, pp. 105, 127, 146; J. A. N. S., (221) vol. v, 1863, p. 436; (274) vol. viii, 1874, p. 69, pl. xxi, f. 9; Obs. Gen. Unio, (29) vol. ii, pp. 105, 127, 146, pl. xxiv, f. 115; (222) vol. x, p. 72; (275) vol. xiii, p. 73, pl. xxi, f. 9.

U. Clarkianus.

P. A. P. S., (93) vol. v, 1852, p. 251; T. A. P. S., (79) vol. x, 1852, p. 273, pl. xxi, f. 30; Obs. Gen. Unio, (83) vol. v, p. 29, pl. xxi, f. 30.

U. clavatus.

T. A. P. S., (27) vol. vi, 1838, p. 119; Obs. Gen. Unio, (29) vol. ii, p. 119.

U. coarctatus.

T. A. P. S., (12) vol. iii, 1829, pp. 416, 422; (20) vol. v, 1833, p. 88; (27) vol. vi, 1838, p. 130; Obs. Gen. Unio, (21) vol. i, pp. 30, 36, 200; (29) vol. ii, p. 130.

U. coccincus.

T. A. P. S., (27) vol. vi, 1834, p. 12, pl. v, f. 12; (27) vol. vi, 1838, pp. 131, 146; J. A. N. S., (203) vol. v, 1861, pp. 82, 86; (221) vol. v, 1863, p. 423; Obs. Gen. Unio, (29) vol. ii, pp. 12, 131. 146, pl. v, f. 12; (205) vol. viii, pp. 86, 90; (222) vol. x, p. 59.

U. coelatus.

T. A. P. S., (27) vol. vi, 1838, pp, 122, 146; Obs. Gen. Unio, (29) vol. ii, pp, 122, 146.

U. cognatus.

P. A. N. S., (184) vol. xii, 1860, p. 306; J. A. N. S., (189) vol. iv, 1860, p. 368, pl. lxv, f. 193; Obs. Gen. Unio, (205) vol. viii, p. 50, pl. lxv, f. 193.

U. Coloradoensis.

P. A. N. S., (112) vol. viii, 1856, p. 103; J. A. N. S., (133) vol. iii, 1857, p. 314, pl. xxxi, f. 29; Obs. Gen. Unio, (150) vol. vi, p. 34, pl. xxxi, f. 29.

U. Columbensis.

P. A. N. S., (119) vol. ix, 1857, p. 31; J. A. N. S., (148) vol. iv, 1858, p. 75, pl. xiv, f. 55; Obs. Gen. Unio, (150) vol. vi, p. 75, pl. xiv, f. 55.

Unio compactus.

P. A. N. S., (153) vol. xi, 1859, p. 154; J. A. N. S., (159) vol. iv, 1859, p. 218, pl. xxviii, f. 98; (221) vol. v, 1863, p. 444; Obs. Gen. Unio, (170) vol. vii, p. 36, pl. xxviii, f. 98; (222) vol. x, p. 80.

U. complanatus.

T. A. P. S., (12) vol. iii, 1829, pp. 408, 410, 411, 416, 419, 422; (15) vol. iv, 1830, pp. 73, 77, 92, 94, 97, 1831, p. 115; (20) vol. v, 1832, pp. 25, 26, 39; 1833, pp. 88, 89, 90; 1834, pp. 96, 102, 103, 104; (27) vol. vi, 1834, p. 9, 1836, pp. 27, 28, 30, 31; 1836, pp. 35, 38, 52, 53, 54; 1838, pp. 119, 129, 130, 146; (43) vol. viii, 1840, pp. 198, 204, 207, 218, 220, 230, 235, 240; vol. ix, 1843, pp. 276, 278, 279, 280; (55) vol. x, 1845, p. 79; (79) vol. x, 1852, pp. 254, 255, 259, 263, 264, 273, 275; J. A. N. S., (148) vol. iv, 1858, pp. 52, 58, 61, 62, 80, 81, 85, 86, 87, 88, 90; (159) vol. iv, 1859, pp. 201, 206, 215; (168) vol. iv, 1859, p. 255; (189) vol. iv, 1860, pp. 329, 330, 334, 335, 337, 339, 348; (203) vol. v, 1861, pp. 54, 59, 61, 62; (213) vol. v, 1862, pp. 191, 203, 210; (221) vol. v, 1863, p. 412, 438, 445; (242) vol. vi, 1866, pp. 7, 12, 15, 18, 21; Obs. Gen. Unio, (21) vol. i, pp. 22, 24, 25, 30, 33, 36, 83, 87, 102, 104, 107, 125, 137, 138, 151, 200, 201, 202, 208, 214. 215, 216; (29) vol. ii, pp. 9, 27, 28, 30, 31, 35, 38, 52, 53, 54, 119, 129, 130, 146; (44) vol. iii, pp. 36, 42, 45, 56, 58, 68, 73, 78; (56) vol. iv, pp. 79, 276, 278, 279, 280; (83) vol. v, pp. 10, 11, 15, 19, 20, 29, 31; (150) vol. vi, pp. 52, 58, 61, 62, 80, 81, 85, 86, 87, 88, 90; (170) vol. vii, pp. 19, 24, 33, 73; (205) vol. viii, pp. 11, 12, 16, 17, 19, 21, 30, 46, 58, 63, 65, 66; (215) vol. ix, pp. 13, 25, 32; (222) vol. x, p. 48, 74, 81; (244) vol. xi, pp. 11, 16, 19, 22, 25; P. A. N. S., (115) vol. viii, 1856, p. 213.

U. compressissimus.

T. A. P. S., (55) vol. x, 1845, p. 81, pl. viii, f. 23; Obs. Gen. Unio, (56) vol. iv, p. 81, pl. viii, f. 23.

U. compressus.

T. A. P. S., (27) vol. vi, 1838, pp. 121, 134, 135, 146, 151; (43) vol. viii, 1841, p. 231; (79) vol. x, 1852, p. 257; Obs. Gen. Unio, (29) vol. ii, pp. 121, 134, 135, 146, 151; (44) vol. iii, p. 69; (83) vol. v, p. 13.

U. Conasaugaensis.

J. A. N. S., (273) vol. viii, 1874, p. 33, pl. x, f. 30; Obs. Gen. Unio, (275) vol. xiii, p. 37, pl. x, f. 30.

U. concavus.

P. A. P. S., (93) vol. v, 1852, p. 251; T. A. P. S., (79) vol. x, 1852, pp. 260, 262, pl. xv, f. 11; J. A. N. S., (159) vol. iv, 1859, pp. 191, 202; (189) vol. iv, 1860, p. 343; Obs. Gen. Unio, (83) vol. v, pp. 16, 18, pl. xv, f. 11; (170) vol. vii, pp. 12, 20; (205) vol. viii, p. 25.

U. concestator.

P. A. N. S., (119) vol. ix, 1857, p. 31; J. A. N. S., (148) vol. iv, 1858, pp. 66, 73, pl. xii, f. 48; (213) vol. v, 1862, p. 200; (274) vol. viii, 1874, p. 68, pl. xxi, f 4; Obs. Gen. Unio, (150) vol. vi, pp. 66, 73, pl. xii, f. 48; (215) vol. ix, p. 22; (275) vol. xiii, p. 72, pl. xxv, f. 4.

Unio concinnus.

T. A. P. S., (27) vol. vi, 1838, pp. 134, 151; Obs. Gen. Unio, (29) vol. ii, pp. 134, 151.

U. concolor.

P. A. N. S., (192) vol. xiii, 1861, p. 40; J. A. N. S., (203) vol. v, 1861, p. 89, pl. xii, f. 237; Obs. Gen. Unio, (205) vol. viii, p. 93, pl. xii, f. 237.

U. confertus.

T. A. P. S., (20) vol. v, 1834, p. 103, pl. xvi, f. 47; (27) vol. vi, 1836, p. 31, 1838, pp. 130, 146; (43) vol. viii, 1840, p. 203; (79) vol. x, 1852, p. 259; J. A. N. S., (133) vol. iii, 1857, p. 302; (148) vol. iv, 1858, pp. 85, 86; (203) vol. v, 1861, p. 54; Obs. Gen. Unio, (21) vol. i, p. 215, pl. xvi, f. 47; (29) vol. ii, pp. 31, 130, 146) (44) vol. iii, p. 41; (83) vol. v, p. 15; (150) vol. vi, pp. 22, 85, 86; (205) vol. viii, p. 58.

U. Congaræus.

T. A. P. S., (15) vol. iv, 1830, p. 72, pl. vi, f. 4; (27) vol. vi, 1838, pp. 130, 146; (43) vol. viii, 1842, p. 246; (79) vol. x, 1852, pp. 258, 260; J. A. N. S., (242) vol. vi, 1866, p. 7, pl. i, f. 3; Obs. Gen. Unio, (21) vol. i, p. 82, pl. vi, f. 4, (29) vol. ii, pp. 130, 146; (44) vol. iii, p. 84; (83) vol. v, pp. 14, 16; (244) vol. xi, p. 11, pl. i, f. 3.

U. Conradianus.

J. A. N. S., (221) vol. v, 1863, pp. 410, 411; Obs. Gen. Unio, (222) vol. x, pp. 46, 47.

U. Conradicus.

T. A. P. S., (20) vol. v, 1833, p. 63, pl. ix, f. 23; (27) vol. vi, 1838, pp. 122, 146; P. A. N. S., (115) vol. viii, 1856, p. 214; J. A. N. S., (148) vol. iv, 1858, p. 71; (159) vol. iv, 1859, p. 204; Obs. Gen. Unio, (21) vol. i, p. 175, pl. ix, f. 23; (29) vol. ii, pp. 122, 146; (150) vol. vi, p. 71; (170) vol. vii, p. 22.

U. Conradius.

J. A. N. S., (242) vol. vi, 1866, p. 46; Obs. Gen. Unio, (244) vol. xi, p. 50.

U. consanguineus.

P. A. N. S., (196) vol. xiii, 1861, p. 60; J. A. N. S., (203); vol. v, 1861, p. 67, pl. vii, f. 217; (258) vol. vi, 1868, p. 327; Obs. Gen. Unio, (205) vol. viii, p. 71, pl. vii, f. 217; (259) vol. xii, p. 87.

U. consentaneus.

T. A. P. S., (27) vol. vi, 1838, pl. 28; Obs. Gen. Unio, (29) vol. ii, p. 128.

U. consobrinus.

P. A. N. S., (165) vol. xi, 1859, p. 331; J. A. N. S., (168) vol. iv, 1859, pl. xlv, f. 152; Obs. Gen. Unio, (170) vol. vii, p. 90, pl. xlv, f. 152.

U. conspicuus.

J. A. N. S., (273) vol. viii, 1874, p. 34, pl. xi, f. 31; Obs. Gen. Unio, (275) vol. xiii, p. 38, pl. xi, f. 31.

U. contractus.

P. A. N. S., (123) vol. ix, 1857, p. 86; J. A. N. S., (213) vol. v, 1862, p. 203, pl. xxix, f. 272; Obs. Gen. Unio, (215) vol. ix, p. 25, pl. xxix, f. 272.

U. constrictus.

T. A. P. S., (79) vol. x, 1852, p. 280; Obs. Gen. Unio, (83) vol. v, p. 36.

Unio contiguus.

P. A. N. S., (200) vol. xiii, 1861, p. 392; J. A. N. S., (213) vol. v, 1862, p. 199, pl. xxviii, f. 268; Obs. Gen. Unio, (215) vol. ix, p. 21, pl. xxviii, f. 268.

U. contradens.

T. A. P. S., (27) vol. vi, 3 ser.. 1836, p. 75, pl. f. xviii, 58; 1838, pp. 133, 146; Obs. Gen. Unio, (29) vol. ii, pp. 75, 133, 146, pl. xviii, f. 58.

U. Cooperianus.

T. A. P. S., (20) vol. v, 1833, p. 61, pl. viii, f. 21; (27) vol. vi, 1838, pp. 123, 146; (43) vol. viii, 1841, p. 231; (55) vol. x, 1845, p. 72; J. A. N. S., (221) vol. v, 1863, p. 430; Obs. Gen. Unio, (21) vol. I, p. 173, pl. viii, f. 21; (29) vol. ii, pp. 123, 146; (44) vol. iii, p. 69; (56) vol. iv, p. 72; (222) vol. x, p. 66.

U. Copei.

J. A. N. S., (258) vol. vi,-1868, p. 307, pl. xlvii, f. 120; Obs. Gen. Unio, (259) vol. xii, p. 67, pl. xlvii, f. 120.

U. cor.

T. A. P. S., (27) vol. vi, 1838, pp. 126, 146; (43) vol. viii, 1840, p. 216; J. A. N. S., (203) vol. v, 1861, p. 71; (242) vol. vi, 1866, pp. 38, 42; Obs. Gen. Unio, (29) vol. ii, pp. 126, 146; (44) vol. iii, p. 54; (205) vol. viii, p. 75; (244) vol. xi, pp. 42, 46.

U. cordatus.

T. A. P. S.,(27) vol. vi, 1838, p. 125; Obs. Gen. Unio, (29) vol. ii, p. 125.

U. cordiformis.

T. A. P. S., (27) vol. vi, 1838, pp. 134, 151; Obs. Gen. Unio, (29) vol. ii, pp. 134, 151.

U. corneus.

J. A. N. S.,(274)vol.viii, 1874, p. 59, pl. xx, f. 58; Obs. Gen. Unio, (275) vol. xiii, p. 63, pl. xx, f. 58.

U. cornutus.

T. A. P. S., (12) vol. iii, 1829, pp. 409, 410, 411, 418, 419; (15) vol. iv, 1830, pp. 63, 80; 1831, p. 113; (29) vol. ii, pp. 55, 59, 123, 146; (44) vol. iii, p. 69; J. A. N. S., (221) vol. v, 1863, p. 429; (242) vol.vi, 1866, p. 27; Obs. Gen. Unio, (21) vol. i, pp. 23, 24, 25, 32, 33, 73, 90, 123; (29)vol. ii, pp. 55, 59, 123, 146; (44)vol. iii, p. 69; (222) vol. x, p. 65; (244) vol. xi, p. 31.

U. Corrianus.

T. A. P. S., (20) vol. v, 1833, p. 65, pl. ix, f. 25; (27) vol. vi, 1835, p. 19; 1838, pp. 133, 145; (43) vol. viii, 1840, p. 222; Obs. Gen. Unio, (21) vol. i, p. 177, pl. ix, f. 25; (29) vol. ii, p. 19, 133, 145; (44) vol. iii, p. 60.

U. corrugatus.

T. A. P. S., (12) vol. iii, 1829, p. 424; (15) vol. iv, 1830, pp. 92, 96, 98; (20) vol.v, 1833, p. 65, 68; (27) vol. vi, 1838, pp. 121, 129 145; (43) vol. viii, 1841, p. 239; J. A. N. S., (133) vol. iii, 1857, pp. 292, 294; (168) vol. iv, 1859, p. 266; (203) vol. v, 1861, p. 77; (242) vol. vi, 1866, p. 57; Obs. Gen. Unio, (21) vol. i, pp. 38, 102, 106, 108, 177, 180; (29) vol. ii, pp. 121, 129, 145; (44) vol. iii, p. 77; (150) vol. vi, pp. 12, 14; (170) vol. vii, p. 84; (205) vol. viii, p. 81; (244) vol. xi, p. 61.

Unio corvinus.

J. A. N. S., (258) vol. vi, 1868, p. 310, pl. xlviii, f. 123; Obs. Gen. Unio, (259) vol. xii, p. 70, pl. xlviii, f. 123.

U. corvunculus.

J. A. N. S., (258) vol. vi, 1868, p. 314, pl. l, f. 127; Obs. Gen. Unio, (259) vol. xii, p. 74, pl. l, f. 127.

U. corvus.

P. A. N. S., (151) vol. xi, 1859, p. 112; J. A. N. S., (159)vol. iv, 1859, p. 217, pl. xxvii, f. 97; Obs. Gen. Unio, (170) vol. vii, p. 35, pl. xxvii, f. 97.

U. costatus.

T. A. P. S., (27) vol. vi, 1838, p. 122; Obs. Gen. Unio, (29) vol. ii, p. 122.

U. Couchianus.

P. A. N. S., (184)vol. xii, 1860, p. 305; J. A. N. S., (189) vol. iv, 1860, p. 371, pl. xvi, f. 196; Obs. Gen. Unio, (205) vol. viii, p. 53, pl. lxvi, f. 196.

U. crapulus.

P. A. N. S., (192) vol. xiii, 1861, p. 39; J. A. N. S., (242) vol. vi, 1866, p. 42; Obs. Gen. Unio, (244) vol. xi, p. 46, pl. xv, f. 40.

U. crassidens.

T. A. P. S., (12) vol. iii, 1829, pp. 417, 421; (20) vol. v, 1833, p. 87; (27) vol. vi, 1836, pp. 35, 37, 40, 56, 74, 122, 125, 146; (43) vol. viii, 1840, p. 218; (54) vol. ix, 1843, p. 280; J. A. N. S., (213) vol. v, 1862, pp. 190, 194, 202; (221) vol. v, 1863, p. 410; P. A. P. S., (66) vol. v, 1851, pp. 192, 193; P. A. N. S., (115) vol. viii, 1856, p. 213; Obs. Gen. Unio, (21) vol. i, pp. 31, 35, 199; (29) vol. ii. pp. 35, 37, 40, 56, 74, 122, 125, 146; (44) vol. iii, p. 56; (56) vol. iv, p. 280; (215) vol. ix, pp. 12, 14, 24; (222) vol. x, p. 46.

U. crassissimus.

T. A. P. S., (20) vol. v, 1833, p. 86; (27) vol. vi, 1838, pp. 134, 145; Obs. Gen. Unio, (29) vol. ii, pp. 134, 145, 151.

U. crassiusculus.

T. A. P. S., (27) vol. vi, 1838, pp. 134, 151; Obs. Gen. Unio, (29) vol. ii, pp. 134, 151.

U. crassus.

T. A. P. S., (12) vol. iii, 1829, pp. 417, 418, 421; (20) vol. v, 1832, pp. 25, 73, 74, 88; 1834, pp. 4, 6, 16, 24, 101; 1836, pp. 40, 56, 76; 1838, pp. 119, 127, 130, 144, 146; (43) vol. viii, 1841, pp. 231, 235; (55) vol. x, 1845, p. 80; (79) vol. x, 1852, p. 276; J. A. N. S., (148) vol. iv, 1858, p. 78; (242) vol. vi, 1866, p. 63; P. A. P. S., (66) vol. v, 1851, pp. 192, 193; P. A. N. S., (115) vol. viii, 1856, p. 213; Obs. Gen. Unio, (21) vol. i, pp. 31, 32, 35, 137, 213; (29) vol. ii, pp.4, 6, 16, 24, 40, 56, 76, 119,127, 130, 144, 146; (44) vol. iii, pp. 69, 73; (56) vol. iv, p. 80; (83) vol. v, p. 32; (150) vol. vi, p. 78; (244) vol. xi, p. 67.

U. crebririttatus.

P. A. N. S., (196) vol. xiii, 1861, p. 60; J. A. N. S., (203) vol. v, 1861, p. 68; (242) vol. vi, 1866, p. 43, pl. xv. f. 41; Obs. Gen. Unio, (205) vol. viii, p. 72; (244) vol. xi, p. 47, pl. xv, f. 41.

Unio creperus.
T. A. P. S., (27) vol. vi, 1836, p. 33, pl. x, f. 28; 1838, pp. 128, 146; Obs. Gen. Unio, (29) vol. ii, pp. 33, 128, 146, pl. x, f. 29.

U. crispatus.
J. A. N. S., (133) vol. iii, 1857, pp. 296, 297, 299, 303, 307; (168) vol. iv, 1859. p. 251; Obs. Gen. Unio, (150) vol. vi, pp. 16, 17, 19, 23, 27; (170) vol. vii, p. 69.

U. crocatus.
P. A. P. S., (39) vol. ii, 1841, p. 31; T. A. P. S., (43) vol. viii, 1841, p. 238, pl. xxii, f. 52; (79) vol. x, 1852, pp. 271, 274; J. A. N. S., (133) vol. iii, 1857, p. 314; (203) vol. v, 1861, p 98; (221) vol. v, 1863, p. 438; Obs. Gen. Unio, (44) vol. iii, p. 76, pl. xxii, f. 52; (88) vol. v, pp. 27, 30; (150) vol. vi, p. 34; (205) vol. viii, p. 102; (222) vol. x, p. 74.

U. Cromwellii.
P. A. N. S., (235) vol. xvii, 1865, p. 89; J. A. N. S., (257) vol. vi, 1868, p. 258, pl. xxxi, f. 73; Obs. Gen. Unio, (259) vol. xii, p. 18, pl. xxxi, f. 73.

U. crudus.
J. A. N. S., (273) vol. viii, 1874, p. 14, pl. iv, f. 10; Obs. Gen. Unio, (275) vol. xiii, p. 18, pl. iv, f. 10.

U. cucumoides.
P. A. P. S., (35) vol. i, 1840, p. 285; T. A. P. S., (43) vol. viii, 1840, pp. 192, 219, pl. vii, f. 2; (54) vol. ix, 1843, p. 277; Obs. Gen. Unio, (44) vol. iii, pp. 30, 57, pl. vii, f. 2; (56) vol. iv, p. 277.

U. Cumberlandianus.
T. A. P. S., (27) vol. vi, 1836, p. 25, 26, pl. vii, f. 19; 1838, pp. 128, 146; Obs. Gen. Unio, (29) vol. ii, pp. 25, 26, 128, 146, pl. vii, f. 19; (170) vol. vii, p. 21; (205) vol. viii, pp. 22, 28; J. A. N. S., (159) vol. iv, 1859, p. 203; (189) vol. iv, 1860, pp. 340, 346.

U. Cumingii.
J. A. N. S., (168) vol. iv, 1859, p. 240, pl. xxxv, f. 120; Obs. Gen. Unio, (170) vol. vii, p. 58, pl. xxxv, f. 120.

U. cuneatus.
T. A. P. S., (12) vol. iii, 1829, pp. 410, 411, 419; (15) vol. iv, 1830, p. 77; (20) vol. v, 1832, pp. 31, 87; (27) vol. vi, 1836, pp. 35, 40; 1838, pp. 124, 125, 133, 144; (43) vol. viii, 1841, p. 231; Obs. Gen. Unio, (21) vol. i, pp. 24, 25, 33, 87, 143, 199; (29) vol. ii, pp. 35, 40, 124, 125, 133, 144; (44) vol. iii, p. 69.

U. cuneolus.
P. A. P. S., (35) vol. i, 1840, p. 286; T. A. P. S., (43) vol. viii, 1840, p. 193, pl. vii, f. 3; Obs. Gen. Unio, (44) vol. iii, p. 31, pl. vii, f. 3.

U. cuprea.
T. A. P. S., (27) vol. vi, 1834, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

U. cuprimus.
T. A. P. S., (15) vol. iv, 1830, p. 94, pl. xii, f. 24; (20) vol. v, 1834, p. 106; (27) vol. vi, 1838, pp. 133, 146; (79) vol. x, 1852, p. 284; J. A. N. S., (243) vol. vi, 1866, p. 121; Obs. Gen. Unio, (21) vol. i, pp. 204, 218; (29) vol. ii, pp. 133, 146; (83) vol. v, p. 40; (244) vol. xi, p. 78.

Unio curatus.
J. A. N. S., (242) vol. vi, 1866, p. 23, pl. vii, f. 21; Obs. Gen. Unio, (244) vol. xi, p. 27, pl. vii, f. 21.

U. curtus.
P. A. N. S., (151) vol. xi, 1859, p. 112; J. A. N. S., (203) vol. v, 1861, pp. 92, 103, pl. xvii, f. 253; Obs. Gen. Unio, (205) vol. viii, pp. 96, 107, pl. xvii, f. 253.

U. curvatus.
J. A. N. S., (273) vol. viii, 1874, p. 38, pl. xiii, f. 35; Obs. Gen. Unio, (275) vol. xiii, p. 42, pl. xiii, f. 35.

U. cuspidatus.
J. A. N. S., (273) vol. viii, 1874, p. 43, pl. xiv, f. 40; Obs. Gen. Unio, (275) vol. xiii, p. 47, pl. xiv, f. 40.

U. Cuvierianus.
P. A. P. S., (93) vol. v, 1852, p. 251; T. A. P. S., (79) vol. x, 1852. p 263, pl. xvi, f. 16; J. A. N. S., (148) vol. iv, 1858, p. 81; Obs. Gen. Unio, (83) vol. v, p. 19, pl. xvi, f. 16; (150) vol. vi, p. 81.

U. cyclips.
T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

U. cylindrellus.
J. A. N. S., (258) vol. vi, 1868, p. 308, pl. xlviii, f. 121; Obs. Gen. Unio, (259) vol. xii, p. 68, pl. xlviii, f. 121.

U. cylindricus.
T. A. P. S., (12) vol. iii, 1829, pp. 407, 409, 410, 412, 413, 414, 417, 423; (15) vol. iv, 1831, p. 106; (20) vol. v, 1833, pp. 60, 89; (27) vol. vi, 1836, p. 55; 1838, pp. 124, 146; (43) vol. viii, 1841, pp. 230, 231; J. A. N. S., (133) vol. iii, 1857, p. 316; (148) vol. iv, 1858, p. 51; (221) vol. v. 1863, p. 421; Obs. Gen. Unio, (21) vol. i, pp. 21, 23, 24, 26, 27, 28, 31, 37. 116, 172, 201; (29) vol. ii, pp. 55, 124, 146; (44) vol. iii, pp. 68, 69; (150) vol. vi, pp. 33, 51; (222) vol. x, p. 57.

U. cyphia.
T. A. P. S., (27) vol. vi, 1834, p. 144; Obs. Gen. Unio, (29) vol ii, p. 144.

U. cyrenoides.
J. A. N. S., (168) vol. iv, 1859, p. 269; Obs. Gen. Unio, (170) vol. vii, p. 87.

U. dactylus.
P. A. P. S., (35) vol. i, 1840, p. 287; T. A. P. S., (43) vol. viii, 1840, p. 196, pl. ix, f. 7; Obs. Gen. Unio, (44) vol. iii, p. 34, pl. ix, f. 7.

U. Damascensis.
J. A. N. S., (242) vol. vi, 1866, p. 55, pl. xviii, f. 52; Obs. Gen. Unio, (244) vol. xi, p. 59, pl. xviii, f. 52.

U. Dariensis.
T. A. P. S., (43) vol. viii, 1842, p. 246, pl. xxvi, f. 61; J. A. N. S., (148) vol. iv, 1858, p. 62; (221) vol. v, 1863, p. 404; Obs. Gen. Unio, (44) vol. iii, p. 84, pl. xxvi, f. 61; (150) vol. vi, p. 62; (222) vol. x, p. 40.

U. datus.
J. A. N. S., (257) vol. vi, 1868, p. 299, pl. xliv, f. 111; Obs. Gen. Unio, (259) vol. xii, p. 59, pl. xliv, f. 111.

Unio decisus.

T. A. P. S., (15) vol. iv, 1830, p. 92, pl. xii, f. 23; (27) vol. vi, 1838, pp. 126, 141, 146; (79) vol. x, 1852, p. 279, 284; J. A. N. S., (159) vol. iv, 1859, p. 210; (203) vol. v, 1861, pp. 68, 85, 92, 104; (221) vol. v, 1863, p. 405; (242) vol. vi, 1866, p. 43; Obs. Gen. Unio, (15) vol. iv, 1830, p. 92, pl. xii, f. 23; (27) vol. ii, pp. 126, 141, 146; (83) vol. v, pp. 35, 40; (170) vol. vii, p. 28; (205) vol. viii, pp. 72, 89, 96, 108; (222) vol. x, p. 41; (244) vol. xi, p. 47.

U. declivis.

T. A. P. S., (27) vol. vi, 1838, pp. 129, 130, 146; (55) vol. x, 1845, p. 74; J. A. N. S., (148) vol. iv, 1858, p. 76; (221) vol. v, 1863, p. 437; Obs. Gen. Unio, (29) vol. ii, pp. 129, 130, 146; (56) vol. iv, p. 74; (150) vol. vi, p. 76; (222) vol. x, p. 73.

U. decoratus.

T. A. P. S., (79) vol. x, 1852, p. 257, pl. xiii, f. 6; P. A. P. S., (93) vol. v, 1852, p. 251; Obs. Gen. Unio, (83) vol. v, p. 13, pl. xiii, f. 6.

U. decorticata.

T. A. P. S., (27) vol. vi, 1834, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

U. decumbens.

P. A. N. S., (192) vol. xiii, 1861, p. 40; J. A. N. S., (203) vol. v, 1861, p. 87, pl. xii, f. 236; Obs. Gen. Unio, (205) vol. viii, p. 91, pl. xii, f. 236.

U. decurvatus.

T. A. P. S., (27) vol. vi, 1838, p. 128; Obs. Gen. Unio, (29) vol. ii, p. 128.

U. dehiscens.

T. A. P. S., (27) vol. vi, 1838, pp. 131, 146; (43) vol. viii, 1841, p. 231; P. A. N. S., (115) vol. viii, 1856, p. 213; J. A. N. S., (221) vol. v, 1863, p. 440; Obs. Gen. Unio, (29) vol. ii, pp. 131, 146; (41) vol. iii, p. 69; (222) vol. x, p. 76.

U. delicatus.

T. A. P. S., (12) vol. iii, 1829, p. 424; (20) vol. v, 1833, p. 90; (27) vol. vi, 1838, pp. 128, 133, 148; (43) vol. viii, 1840, pp. 200, 218, pl. xvii, f. 35; (54) vol. ix, 1843, p. 281; (79) vol. x, 1852, p. 268; J. A. N. S., (133) vol. iii, 1857, pp. 291, 309; (159) vol. iv, 1859, p. 197; (220) vol. v, 1863, pp. 388, 389; (242) vol. vi, 1866, pp. 35, 58, pl. xix, f. 56; P. A. P. S., (35) vol. i, 1840, p. 285; Obs. Gen. Unio, (21) vol. i, pp. 38, 202; (29) vol. ii, pp. 128, 133, 148; (44) vol. iii, pp. 38, 56, pl. xvii, f. 35; (56) vol iv, p. 281; (83) vol. v, p. 24; (150) vol. vi, pp. 11, 29; (170) vol. vii, p. 15; (222) vol. x, pp. 24, 25; (244) vol. xi, p. 39, 62; pl. xix, f. 56.

U. Demaruensis.

P. A. N. S., (152) vol. xi, 1859, p. 152; J. A. N. S., (168) vol. iv, 1859, p. 253, pl. xxxix, f. 133; Obs. Gen. Unio, (170) vol. vii, p. 71, pl. xxxix, f. 133.

Unio denigratus.

P. A. N. S., (129) vol. ix, 1857, p. 171; J. A. N. S., (159) vol. iv, 1859, pp. 199, 200, pl. xxiii, f. 83; (189) vol. iv, 1860, p. 331; Obs. Gen. Unio (170) vol. vii, p. 17, pl. xxiii, f. 83; (205) vol. viii, p. 13.

U. depressa.

T. A. P. S., (12) vol. iii, 1829, pp. 409, 424, 138; (20) vol. v, 1833, p. 91; (27) vol. vi, 1838, pp. 124, 135, 148; Obs. Gen. Unio, (21) vol. i, pp. 23, 38, 52, 203; (29) vol. ii, pp. 124 135, 148.

U. Deshayesii.

T. A. P. S., (27) vol. vi, 1838, p. 132; Obs. Gen. Unio, (29) vol. ii, p. 132.

U. diaphanus.

T. A. P. S., (27) vol. vi, 1834, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

U. differtus.

J. A. N. S., (273) vol. viii, 1874, p. 42, pl. xiv, f. 39; Obs. Gen. Unio, (275) vol. xiii, p. 46, pl. xiv, f. 39.

U. difficilis.

J. A. N. S., (258) vol. vi, 1868, p. 311, pl. xliv, f. 124; Obs. Gen. Unio, (259) vol. xii, p. 71, pl. xlix, f. 124.

U. dignatus.

J. A. N. S., (242) vol. vi, 1866, p. 51, pl. xvii, f. 48; Obs. Gen. Unio, (244) vol. xi, pp. 55, 59, pl. xvii, f. 48.

U. dilatatus.

T. A. P. S., (27) vol. vi, 1838, p. 133; Obs. Gen. Unio, (29) vol. ii, p. 133.

U. diminutus.

P. A. N. S., (152) vol. xi, 1859, p. 151; J. A. N. S., (168) vol. iv, 1859, p. 254, pl. xxxix, f. 134; Obs. Gen. Unio, (170) vol. vii, p. 72, pl. xxxix, f. 134.

U. diplooderma.

T. A. P. S., (27) vol. vi, 1834, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

U. diplodon.

J. A. N. S., (168) vol. iv, 1859, p. 265; Obs. Gen. Unio, (170) vol. vii, p. 83.

U. discrepans.

P. A. N. S., (177) vol. xii, 1860, p. 92; J. A. N. S., (189) vol. iv, 1860, p. 340, pl. lv, f. 165; Obs. Gen. Unio, (205) vol. viii, p. 22, pl. lv, f. 165.

U. disculus.

P. A. N. S., (176) vol. xii, 1860, p. 91; J. A. N. S., (220) vol. v, 1863, p. 385, pl. xl, f. 293; Obs. Gen. Unio, (222) vol. x, p. 21, pl. xliv, f. 293.

U. discus.

T. A. P. S., (27) vol. vi, 1836, p. 74, pl. xviii, f. 57, 1838, pp. 129, 148; Obs. Gen. Unio, (29) vol. ii, pp. 74, 129, 148, pl. xviii, f. 57.

U. dispansus.

J. A. N. S., (273) vol. viii, 1874, p. 19, pl. vi, f. 16; Obs. Gen. Unio, (275) vol. xiii, p. 23, pl. vi, f. 16.

U. dispar.

P. A. N. S., (183) vol. xii, 1860, p. 305; J. A. N. S., (189) vol. iv, 1860, p. 327, pl. li, f. 153; Obs. Gen. Unio, (205) vol. viii, p. 9, pl. li, f. 153.

Unio dissimilis.

J. A. N. S., (273) vol. viii, 1874, p. 53, pl. xviii, f. 52; Obs. Gen. Unio, (275) vol. xiii, p. 57, pl. xviii, f. 52.

U. divaricatus.

T. A. P. S., (20) vol. v, 1833, p. 64, pl. ix, f. 24; (27) vol. vi, 1838, p. 129; Obs. Gen. Unio, (21) vol. i, p. 166, pl. ix, f. 24; (29) vol. ii, p. 129.

U. dolabelloides.

P. A. P. S., (35) vol. i, 1840, p. 288; T. A. P. S., (43) vol. viii, 1840, p. 215, pl. xv, f. 31; J. A. N. S., (242) vol. vi, 1866, pp. 38, 39; Obs. Gen. Unio, (44) vol. iii, p. 53, pl. xv, f. 31; (244) vol. xi, pp. 42, 43.

U. dolabræformis.

T. A. P. S., (27) vol. vi, 1838, pp. 103, 126, 146, pl. xxiv, f. 113; J. A. N. S., (221) vol. v, 1863, p. 413; Obs. Gen. Unio, (29) vol. ii, pp. 103, 136, 146; (222) vol. x, p. 49.

U. doliaris.

P. A. N. S., (235) vol. xvii, 1865, p. 88; J. A. N. S., (257) vol. vi, 1868, p. 260, pl. xxxii, f. 75; Obs. Gen Unio, (259) vol. xii, p. 20, pl. xxxii, f. 75.

U. dolosus.

P. A. N. S., (186) vol. xii, 1860, p. 307; J. A. N. S., (203) vol. v, 1861, p. 75, pl. ix, f. 224; Obs. Gen. Unio, (205) vol. viii, p. 79, pl. ix, f. 224.

U. Dombeyanus.

T. A. P. S., (12) vol. iii, 1829, pp. 417, 421; (27) vol. vi, 1838, p. 122; Obs. Gen. Unio, (21) vol. i, pp. 31, 35; (29) vol. ii, p. 122.

U. donaciformis.

T. A. P. S., (9) vol. iii, 1827, pp. 266, 267, pl. iv, f. 3; (12) vol. iii, 1829, pp. 409, 412, 420, 441; (15) vol. iv, 1830, p. 83; (27) vol. vi, 1838, pp. 124, 146; Obs. Gen. Unio, (21) vol. i, pp. 8, 9, 23, 26, 34, 35, 93, pl. iv, f. 3.

U. Dooleyensis.

J. A. N. S., (274) vol. viii, 1874, p. 64, pl. xxii, f. 60; Obs. Gen. Unio, (275) vol. xiii., p. 68, pl. xxii, f. 60.

U. Dorfeuillianus.

T. A. P. S., (27) vol. vi, 1836, p. 73, pl. xvii, f. 54; 1838, pp. 123, 146; Obs. Gen. Unio, (29) vol. ii, pp. 73, 123, 146, pl. xvii, f. 54.

U. dorsatus.

J. A. N. S., (257) vol. vi, 1868, p. 300, pl. xlv, f. 112.

U. Douglasiæ.

T. A. P. S., (27) vol. vi, 1838, p. 122; Obs. Gen. Unio, (29) vol. ii, p. 122.

U. Downei.

P. A. N. S., (143) vol. x, 1858, p. 166; J. A. N. S., (159) vol. iv, 1859, pp. 209, 210, 217; Obs. Gen. Unio, (170) vol. vii, pp. 27, 28, 35, pl. xxv, f. 91.

U. dromas.

T. A. P. S., (20) vol. v, 1833, p. 70, pl. x, f. 29; (27) vol. vi, 1838, pp. 124, 146; (55) vol. x, 1845, p. 75; (79) vol. x, 1852, p. 267; J. A. N. S., (148) vol. iv, 1858, p. 55; Obs. Gen. Unio, (21) vol. i, p. 182, pl. x, f. 29; (29) vol. ii, pp. 124, 146; (56) vol. iv, p. 75; (83) vol. v, p. 23; (150) vol. vi, p. 55.

Unio Dunkerianus.

P. A. N. S., (110) vol. viii, 1856, p. 94; J. A. N. S., (133) vol. iii, 1857, p. 305, pl. xxviii, f. 20; (168) vol. iv, 1859, p. 243; Obs. Gen. Unio, (150) vol. vi, p. 25, pl. xxviii, f. 20; (170) vol. vii. p. 61.

U. Duttonianus.

P. A. P. S., (39) vol. ii, 1841, p. 31; T. A. P. S., (43) vol. viii, 1841, p. 236, pl. xxii, f. 50; J. A. N. S., (189) vol. iv, 1860, p. 335; Obs. Gen. Unio, (44) vol. iii, p. 74, pl. xxii, f. 50; (205) vol. viii, p. 17.

U. Dysonii.

P. A. N. S., (152) vol. xi, 1859, p. 152; J. A. N. S., (168) vol. iv, 1859, p. 252, pl. xxxix, f. 132; Obs. Gen. Unio, (170) vol. vii, p. 70, pl. xxxix, f. 132.

U. ebenus.

T. A. P. S., (15) vol iv, 1830, p. 84, pl. ix, f. 14; 1831, p. 118; (27) vol. vi, 1838, pp. 131, 146; (43) vol. viii, 1840, p. 210, 231; (79) vol. x, 1852, p. 284; J. A. N. S., (203) vol. v, 1861, pp. 74, 91; (221) vol. v, 1863, p. 424; P. A. N. S., (115) vol. viii, 1856, p. 213; Obs. Gen. Unio, (21) vol. i, p. 94, pl. ix, f. 14; (29) vol. ii, pp. 131, 146; (44) vol. iii, pp. 48, 69; (83) vol. v, p. 40; (205) vol. viii, pp. 78, 95; (222) vol. x, p. 60.

U. Novi-Eboraci.

T. A. P. S., (27) vol. vi, 1838, p. 104, pl. xxiv, f. 114; Obs. Gen. Unio, (29) vol. ii, p. 104, pl. xxiv, f. 114.

U. Edgarianus.

P. A. P. S., (35) vol. i, 1840, p. 288; T. A. P. S., (43) vol. viii, 1840, p. 214, pl. xv, f. 30; (55) vol. x, 1845, p. 71; J. A. N. S., (242) vol. vi, 1866, p. 39; Obs. Gen. Unio, (44) vol. iii, p. 52, pl. xv, f. 30; (56) vol. iv, p. 71; (244) vol. xi, p. 43.

U. effulgens.

P. A. N. S., (110) vol. viii, 1856, p. 94; J. A. N. S., (133) vol. iii, 1857, p. 303, pl. xxviii, f. 18; Obs. Gen. Unio, (150) vol. vi, p. 23, pl. xxviii, f. 18.

U. Egyptiacus.

T. A. P. S., (27) vol. vi, 1838, pp. 129, 145; Obs. Gen. Unio, (29) vol. ii, pp. 129, 145.

U. Eightsii.

P. A. N. S., (185) vol. xii, 1860, p 306; J. A. N. S., (189) vol. iv, 1860, p. 367, pl. lxvi, f. 192; Obs. Gen. Unio, (205) vol. viii, p. 49, pl. lxiv, f. 192.

U. elegans.

T. A. P. S., (15) vol. iv, 1830, p. 83, pl. ix, f. 13; (27) vol. vi, 1838, pp. 124, 146; (43) vol. viii, 1841, p. 231; J. A. N. S., (242) vol. vi, 1866, p. 33; P. A. N. S., (115) vol. viii, 1856, p. 213; (135) vol. x, 1858, pp. 13, 14; Obs. Gen. Unio, (21) vol. i, p. 93, pl. ix, f. 13; (29) vol. ii, pp. 124, 146; (44) vol. iii, p. 69; (244) vol. xi, p. 37.

U. Elliottii.

P. A. N. S., (116) vol. viii, 1856, p. 262; J. A. N. S., (148) vol. iv, 1858, p. 54, pl. vii, f. 37; Obs. Gen. Unio, (150) vol. vi, p. 54, pl. vii, f. 37.

Unio ellipsaria.

T. A P. S., (27) vol. vi, 1838, pp. 124, 144; Obs. Gen. Unio, (29) vol. ii, pp. 124, 144.

U. ellipsiformis.

T. A. P. S., (55) vol. x, 1845, p. 80; Obs. Gen. Unio, (56) vol. iv, p. 80.

U. ellipsis.

T. A. P. S. (9) vol. iii, 1827, p. 268, pl. iv, f. 4; (12) vol. iii, 1829, pp. 408, 409, 412, 413, 414, 420, 431; (15) vol. iv, 1830, pp. 91; (20) vol. v, 1832, p. 30; (27) vol. vi, 1836, p. 55. 1838, pp. 126, 146; (43) vol. viii, 1841, p. 231; J. A. N. S., (213) vol. v, 1862, p. 189; (221) vol. v, 1863, p. 432; Obs. Gen. Unio, (21) vol. i, pp. 10, 22, 23, 26, 27, 28, 34, 45, 101, 142, pl. iv, f. 4; (29) vol. ii, pp. 55, 126, 146; (44) vol. iii, p. 69; (215) vol. ix, p. 11; (222) vol. x, p. 68.

U. ellipticus.

T. A. P. S., (12) vol. iii, 1829, p. 417; (27) vol. vi, 1834, p. 144; 1838, p. 127; J. A. N. S., (133) vol. iii, 1857, p. 304; (168) vol. iv, 1859, p. 245; Obs. Gen. Unio, (21) vol. i, p. 31; (29) vol. ii, pp. 144, 127; (150) vol. vi, p. 24; (170) vol. vii, p. 63.

U. elongata.

T. A. P. S., (12) vol. iii, 1829, p. 421; (20) vol. v, 1833, pp. 87, 88; (27) vol. vi, 1838, pp. 132, 134, 136, 145; J. A. N. S., (159) vol. iv, 1859; p. 224; Obs. Gen. Unio, (21) vol. i, pp. 35, 199, 200; (29) vol. ii, pp. 132, 134, 136, 145; (170) vol. vii, p. 42.

U. elongatula.

T. A. P. S., (27) vol. vi, 1838, p. 132; Obs. Gen. Unio, (29) vol. ii, p. 132.

U. emarginatus.

T. A. P. S., (20) vol. v, 1833, p. 62, pl. ix, f. 22; (27) vol. vi, 1836, p. 33; (29) vol. ii, pp. 134, 148; P. A. N. S., (123) vol. ix, 1857, p. 86; J. A. N. S., (203) vol. v, 1861, p. 56, pl. ii, f. 203; (221) vol. v, 1863, p. 445; Obs. Gen. Unio, (21) vol. i, p. 174, pl. ix, f. 22; (29) vol. ii, pp. 33, 134, 148; (205) vol. viii, p. 60, pl. ii, f. 203; (222) vol. x, p. 81.

U. Emescensis.

J. A. N. S., (257) vol. vi, 1868, p. 254, pl. xxx, f. 68; Obs. Gen. Unio, (259) vol. xii, p. 14, pl. xxx, f. 68.

U. encarpus.

J. A. N. S., (257) vol. vi, 1868, p. 294, pl. xlii, f. 105; Obs. Gen. Unio, (259) vol. xii, p. 54, pl. xlii, f. 105.

U. errans.

P. A. N. S., (116) vol. viii, 1856, p. 262; J. A. N. S., (148) vol. iv, 1858; p. 60, pl. ix, f. 42; Obs. Gen. Unio, (150) vol. vi, p. 60, pl. ix, f. 42.

U. Estabrookianus.

T. A. P. S., (55) vol. x, 1845, p. 77, pl. vi, f. 17; J. A. N. S., (203) vol. v, 1861, p. 66; Obs. Gen. Unio, (56) vol. iv, p. 77, pl. vi, f. 17, (205) vol. viii, p. 70.

U. evitatus.

J. A. N. S., (257) vol. vi, 1868, p. 279, pl. xxxviii, f. 97; Obs. Gen. Unio, (259) vol. xii, p. 39, pl. xxxviii, f. 97.

Unio exactus.

P. A. N. S., (136) vol. x, 1858, p. 111; J. A. N. S., (203) vol v, 1861, p. 62, pl. iv, f. 210; Obs. Gen. Unio, (205) vol. viii, p. 66, pl. iv, f. 210.

U. exacutus.

J. A. N. S., (273) vol. viii, 1874, p. 45, pl. xv, f. 43; Obs. Gen. Unio, (275) vol. xiii, p. 49, pl. xv, f. 43.

U. excavatus.

P. A. N. S., (119) vol. ix, 1857, p. 32; J. A. N. S., (148) vol. iv, 1858, p. 71, pl. xiii, f. 52; (274) vol. viii, 1874, p. 68, pl. xxi, f. 6; Obs. Gen. Unio, (150) vol. vi, p. 71, pl. xiii, f. 52; (275) vol. xiii, p. 72, pl. xxi, f. 6.

U. eximius.

P. A. N. S., (110) vol. viii, 1856, p. 93; J. A. N. S., (133) vol. iii, 1857, p. 294, pl. xxv, f. 8; Obs. Gen. Unio, (150) vol. vi, p. 14, pl. xxv, f. 8.

U. exiguus.

P. A. P. S., (35) vol. i, 1840, p. 287; T. A. P. S., (43) vol. viii, 1840, p. 191, pl. vii, f. 1; J. A. N. S., (148) vol. iv, 1858, p. 57; (189) vol. iv, 1860, pp. 328, 354; (221) vol. v, 1863, p. 418; Obs. Gen. Unio, (44) vol. iii, p. 29, pl. vii, f. 1; (150) vol. vi, p. 57; (205) vol. viii, pp. 10, 36; (222) vol. x, p. 54.

U. extensus.

P. A. N. S., (119) vol. ix, 1857, p. 31; J. A. N. S., (148) vol. iv, 1858, pp. 67, 94, pl. xii, f. 49; (159) vol. iv, 1859, p. 216; Obs. Gen. Unio, (150) vol. vi, pp. 67, 94, pl. xii, f. 49; (170) vol. vii, p. 34.

U. faba.

T. A. P. S., (27) vol. vi, 1838, pp. 129, 148; (79) vol. x, 1852, p. 261; Obs. Gen. Unio, (29) vol. ii, pp. 129, 148; (83) vol. v, p. 17.

U. fabaceus.

P. A. N. S., (192) vol. xiii, 1861, p. 38; J. A. N. S., (203) vol. v, 1861, p. 90, pl. xiii, f. 238; Obs Gen. Unio, (205) vol. viii, p. 94, pl. xiii, f. 238.

U. fabalis.

T. A. P. S., (15) vol. iv, 1830, p. 86, pl. x, f. 16; (27) vol. vi, 1838, pp. 128, 146; (43) vol. viii, 1840, pp. 223, 231; (79) vol. x, 1852, pp. 261, 262; J. A. N. S., (221) vol. v, 1863, pp. 423, 448; Obs. Gen. Unio, (21) vol. i, p. 96, pl. x, f. 16; (29) vol. ii, pp. 128, 146; (44) vol. iii, p. 61, 69; (83) vol. v, pp. 17, 18; (222) vol. x, pp. 59, 94.

U. fallax.

P. A. N. S., (119) vol. ix, 1857, p. 32; J. A. N. S., (148) vol. iv, 1858, pp. 74, 77, 79, pl. xv, f. 59; (159) vol. iv, 1859, p. 208; (274) vol. viii, 1874, p. 69, pl. xxi, f. 8; Obs. Gen. Unio, (150) vol. vi, pp. 74, 77, 79, pl. xv, f. 59; (170) vol. vii, p. 26; (275) vol. xiii, p. 73, pl. xxi, f. 8.

U. fasciata.

T. A. P. S., (27) vol. vi, 1838, pp. 127, 144; Obs. Gen. Unio, (29) vol. ii, pp. 127, 144.

U. fasciolus.

T. A. P. S., (27) vol. vi, 1838, p. 127; Obs. Gen. Unio, (29) vol. ii, p. 127.

Unio fasciolaris.
T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, vol. ii, p. 144.

U. fassinans.
J. A. N. S., (258) vol. vi, 1868, p. 305, pl. xlvii, f. 118; Obs. Gen. Unio, (259) vol. xii, p. 65, pl. xlvii, f. 118.

U. fatuus.
P. A. P. S., (35) vol. i, 1840, p. 287; T. A. P. S., (43) vol. viii, 1840, p. 201, pl. xi, f. 14; Obs. Gen. Unio, (44) vol. iii, p. 39, pl. xi, f. 14.

U. favidens.
J. A. N. S., (168) vol. iv, 1859, p. 271; (203) vol. v, 1861, pp. 72, 82; Obs. Gen. Unio, (170) vol. vii, p. 89; (205) vol. viii, pp. 76, 86.

U. favosus.
P. A. N. S., (116) vol. viii, 1856, p. 262; J. A. N. S., (148) vol. iv, 1858, pp. 58, 59, pl. viii, f. 40; Obs. Gen. Unio, (150) vol. vi, pp. 58, 59, pl. viii, f. 40.

U. fibuloides.
P. A. N. S., (153) vol. xi, 1859, p. 154; J. A. N. S., (159) vol. iv, 1859, p. 219, pl. xxviii, f. 100; (221) vol. v, 1863, p. 443; Obs. Gen. Unio, (170) vol. vii, p. 37, pl. xxviii, f. 100; (222) vol. x, p. 79.

U. firmus.
J. A. N. S., (257) vol. vi, 1868, p. 267, pl. xxxiv, f. 82; Obs. Gen. Unio, (259) vol. xii, p. 27, pl. xxxiv, f. 82.

U. Fisherianus.
T. A. P. S., (27) vol. vi, 1834, p. 8, pl. iv, f. 8; 1838, pp. 132, 146; (79) vol. x, 1852, p. 278; J. A. N. S., (148) vol. iv, 1858, p. 65; (203) vol. v, 1861, p. 57; (221) vol. v, 1863, p. 456; (242) vol. v, 1866, p. 12; Obs. Gen. Unio, (29) vol. ii, pp. 8, 132, 146, pl. iv, f. 8; (83) vol. v, p. 34; (150) vol. vi, p. 65; (205) vol. viii, p. 61; (222) vol. x, p. 92; (244) vol. xi, p. 16.

U. flava.
T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

U. flavescens.
T. A. P. S., (55) vol. x, 1845, p. 72, pl. iii, f. 9; Obs. Gen. Unio, (56) vol. iv, p. 72, pl. iii, f. 9.

U. flavidulus.
P. A. N. S., (192) vol. xiii, 1861, p. 39; J. A. N. S., (203) vol. v, 1861, p. 97, pl. xv, f. 245; Obs. Gen. Unio, (205) vol. viii, p. 101, pl. xv, f. 245.

U. flavidus.
J. A. N. S., (273) vol. viii, 1874, p. 28; Obs. Gen. Unio, (275) vol. xiii, p. 32, pl. ix, f. 25.

U. flexuosus.
T. A. P. S., (27) vol. vi, 1838, p. 122; Obs. Gen. Unio, (29) vol. ii, p. 122.

U. flexus.
T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

U. Florentinus.
P. A. N. S., (120) vol. ix, 1857, p. 83; J. A. N. S., (203) vol. v, 1861, pp. 63, 64, pl. v, f. 213; Obs. Gen. Unio, (205) vol. viii, pp. 67, 68, pl. v, f. 213.

Unio Floridensis.
T. A. P. S., (79) vol. x, 1852, p. 274, pl. xxi, f. 31; Obs. Gen. Unio, (83) vol. v, p. 30, pl. xxi, f. 31; P. A. P. S., (93) vol. v, 1852, p. 251.

U. fluctiger.
P. A. N. S., (152) vol. xi, 1859, p. 152; J. A. N. S., (168) vol. iv, 1859, p. 250, pl. xxxix, f. 130; (242) vol. vi, 1866, p. 60; Obs. Gen. Unio. (170) vol. vii, p. 68, pl. xxxix, f. 130; (244) vol. xi, p. 64.

U. fluviatilis.
T. A. P. S., (12) vol. iii, 1829, p. 416; (27) vol. vi, 1838, p. 130; Obs. Gen. Unio, (21) vol. i, p. 30; (29) vol. ii, p. 130.

U. foliatus.
T. A. P. S., (12) vol. iii, 1829, p. 419; (15) vol. iv, 1831, p. 113; (27) vol. vi, 1836, p. 55, 1838, pp. 122, 146; (43) vol. viii, 1841, p. 231; (79) vol. x, 1852, p. 278; P. A. N. S., (115) vol. viii, 1856, p. 213; J. A. N. S., (221) vol. v, 1863, p. 443; Obs. Gen. Unio., (21) vol. i, pp. 33, 123; (29) vol. ii, pp. 55, 122, 146; (44) vol. iii, p. 69; (83) vol. v, p. 34; (222) vol. x, p. 79.

U. folliculatus.
T. A. P. S., (27) vol. vi, 1836, p. 38, 1838, pp. 131, 146; (43) vol. viii, 1841, p. 237; (79) vol. x, 1852, p. 260; Obs. Gen. Unio, (29) vol. ii, pp. 38, 131, 146, pl. xi, f. 33; (44) vol. iii, p. 75; (83) vol. v, p. 16.

U. Fontainiana.
T. A. P. S., (27) vol. vi, 1838, pp. 134, 151; Obs. Gen. Unio, (29) vol. ii, pp. 134, 151; (222) vol. x, p. 22; J. A. N. S., (220) vol. v, 1863, p. 386.

U. fontinalis.
T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio (29) vol. ii, p. 144.

U. Footiana.
J. A. N. S., (242) vol. vi, 1866, p. 26; Obs. Gen. Unio, (244) vol. xi, p. 30.

U. Forbesianus.
P. A. P. S., (93) vol. v, 1852, p. 251; T. A. P. S., (79) vol. x, 1852, p. 264, pl. xvi, f. 17; J. A. N. S., (148) vol. iv, 1858, p. 89; (159 vol. iv, 1829, p. 217; Obs. Gen. Unio, (83) vol. v, p. 20, pl. xvi, f. 17; (150) vol. vi, p. 89; (170) vol. vii, p. 35.

U. Foremanianus.
T. A. P. S., (43) vol. viii, 1842. p. 247, pl. xxvii, f. 64; J. A. N. S., (159) vol. iv, 1859, pp. 200, 218; (221) vol. v, 1863, p. 443; Obs. Gen. Unio, (44) vol. iii, p. 85, pl. xxvii, f. 64; (170) vol. vii, pp. 18, 36; (222) vol. v, p. 79.

U. formosus.
T. A. P. S., (15) vol. iv, 1831, p. 111, pl. xvi, f. 41; (27) vol. vi, 1836, p. 50; 1838, p. 121; (43) vol. viii, 1841, pp. 231, 248; Obs. Gen. Unio, (21) vol. i, p. 121, pl. xvi, f. 41; (29) vol. ii, pp. 50, 124; (44) vol. ii, pp. 69, 86.

U. Forshcyi.
P. A. N. S., (154) vol. xi, 1859, p. 155; J. A. N. S., (189) vol. iv, 1860, p. 357, pl. lx, f. 182; (213) vol. v, 1862, p. 208; Obs. Gen. Unio, (205) vol. viii, p. 39, pl. lx, f. 182; (215) vol. ix, p. 30.

Unio fragilis.

T. A. P. S., (12) vol. iii, 1829, p. 452; (27) vol. vi, 1838, pp. 121, 144; Obs. Gen. Unio, (21) vol. i, p. 66; (29) vol. ii, pp. 121, 144.

U. fragosus.

T. A. P. S., (27) vol. vi, 1838, pp. 123, 146; (43) vol. viii, 1841, p. 231; Obs. Gen. Unio, (29) vol. ii, pp. 123, 146; (44) vol. iii, p. 69.

U. fraternus.

T. A. P. S., (79) vol. x, 1852, p. 263, pl. xvi, f. 15; P. A. P. S., (93) vol. v, 1852, p. 251; J. A. N. S., (221) vol. v, 1863, p. 410; Obs. Gen. Unio, (83) vol. v, p. 19, pl. xvi, f. 15.

U. fucatus.

P. A. N. S., (177) vol. xii, 1860, p. 92; J. A. N. S., (189) vol. iv, 1861, p. 346; Obs. Gen. Unio, (205) vol. viii, p. 28.

U. fulgens.

T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

U. fulgidus.

T. A. P. S., (55) vol. x, 1845, p. 73, pl. iv, f. 10; J. A. N. S., (203) vol. v, 1861, p. 73; Obs. Gen. Unio, (56) vol. iv, p. 73, pl. iv, f. 10; (205) vol. viii, p. 77.

U. fuliginosus.

T. A. P. S., (55) vol. x, 1845, p. 78, pl. vii, f. 19; Obs. Gen. Unio, (56) vol. iv, p. 78, pl. vii, f. 19.

U. fulvus.

T. A. P. S., (20) vol. v, 1834, p. 96, pl. xiii, f. 39; (27) vol. vi, 1838, pp. 130, 144, 146; (79) vol. x, 1852, p. 258; J. A. N. S., (203) vol. v, 1861, p. 55; Obs. Gen. Unio, (21) vol. i, p. 208, pl. xiii, f. 39; (29) vol. ii, pp. 130, 144, 146; (83) vol. v, p. 14; (205) vol. viii, p. 59.

U. fumatus.

P. A. N. S., (129) vol. ix, 1857, p. 171; J. A. N. S., (148) vol. iv, 1858, pp. 88, 89, pl. xviii, f. 68; (159) vol. iv, 1859, pp. 197, 218; (189) vol. iv, 1860, pp. 348, 353, pl. lix, f. 178; (213) vol. v, 1862, pp. 201, 202; Obs. Gen. Unio, (150) vol. vi, pp. 88, 89, pl. xviii, f. 68; (170) vol. vii, pp. 15, 36; (205) vol. viii, pp. 30, 35, pl. lix, f. 178; (215) vol. ix, pp. 23, 24.

U. funebralis.

P. A. N. S., (176) vol. xii, 1860, p. 91; J. A. N. S., (220) vol. v, 1863, pp. 378, 381, pl. xli, f. 286; Obs. Gen. Unio, (222) vol. x, pp. 14, 17, pl. xli, f. 286.

U. furvus.

T. A. P. S., (27) vol. vi, 1838, pp. 134, 151; Obs. Gen. Unio, (29) vol. ii, pp. 134, 151.

U. fuscatus.

T. A. P. S., (54) vol. ix, 1843, p. 277, pl. xl, f. 4; J. A. N. S., (242) vol. vi, 1866, p. 47; Obs. Gen. Unio, (56) vol. iv, p. 277, pl. xl, f. 4; (244) vol. xi, p. 51.

U. fusculus.

T. A. P. S., (27) vol. vi, 1838, p. 128; Obs. Gen. Unio, (29) vol. ii, p. 128.

U. ———.

T. A. P. S., (27) vol. vi, 1838, p. 20; Obs. Gen. Unio, (29) vol. ii, p. 128.

Unio Gabbianus.

J. A. N. S., (257) vol. vi, 1868, p. 295, pl. xliii, f. 106; Obs. Gen. Unio, (259) vol. xii, p. 55, pl. xliii, f. 106.

U. Gastonensis.

J. A. N. S., (242) vol. vi, 1866, p. 20, pl. vi, f. 18; Obs. Gen. Unio, (244) vol. xi, p. 24, pl. vi, f. 18.

U. Geddingsianus.

P. A. P. S., (35) vol. i, 1840, p. 285; T. A. P. S., (43) vol. viii, 1840, p. 202, pl. xi, f. 15; (79) vol. x, 1852, p. 259; Obs. Gen. Unio, (44) vol. iii, p. 40, pl. xi, f. 15; (83) vol. v, p. 15; (150) vol. vi, p. 91; J. A. N. S., (148) vol. iv, 1858, p. 91.

U. geminus.

P. A. N. S., (116) vol viii, 1856, p. 262; J. A. N. S., (148) vol. iv, 1858, pp. 63, 86, pl. x, f. 45; Obs. Gen. Unio, (150) vol. vi, pp. 45, 86, pl. x, f. 45.

U. generosus.

J. A. N. S., (213) vol. v, 1862, p. 195; Obs. Gen. Unio, (215) vol. ix, p. 17.

U. Genthii.

P. A. N. S., (123) vol. ix, 1857, p. 85; J. A. N. S., (203) vol. v, 1861, p. 57, pl. ii, f. 204; Obs. Gen. Unio, (205) vol. viii, p. 61, pl. ii, f. 204.

U. genuinus.

J. A. N. S., (258) vol. vi, 1868, p. 305, pl. xlvi, f. 117; Obs. Gen. Unio, (259) vol. xii, p. 64, pl. xlvi, f. 117.

U. geometricus.

T. A. P. S., (20) vol. v, 1832, p. 38, pl. iv, f. 10; (27) vol. vi, 1838, p. 130; Obs. Gen. Unio, (21) vol. i, p. 150, pl. iv, f. 10; (29) vol. ii, p. 130.

U. Georgina.

T. A. P. S., (12) vol. iii, 1829, pp. 416, 422; (20) vol. v, 1833, p. 89; (27) vol. vi, 1838, p. 130; Obs. Gen. Unio, (21) vol. i, pp. 30, 36, 201; (29) vol. ii, p. 130.

U. Georgianus.

P. A. P. S., (39) vol. ii, 1841, p. 31; T. A. P. S., (43) vol. viii, 1841, p. 235, pl. xxi, f. 49; Obs. Gen. Unio, (44) vol. iii, p. 73, pl. xxi, f. 49.

U. Gerhardtii.

J. A. N. S., (213) vol. v, 1862, p. 208, pl. xxxi, f. 277; Obs. Gen. Unio, (215) vol. ix, p. 30, pl. xxxi, f. 277.

U. germanus.

P. A. N. S., (192) vol. xiii, 1861, p. 40; J. A. N. S., (242) vol. vi. 1866, p. 49, pl. xix, f. 54; Obs. Gen. Unio, (244) vol. xi, p. 53, pl. xix, f. 54.

U. Gesnerii.

J. A. N. S., (242) vol. vi, 1866, p. 26; (274) vol. viii, 1874, p. 65, pl. xxii, f. 61; Obs. Gen. Unio, (244) vol. xi. p. 230; (275) vol. xiii, p. 69, pl. xxii, f. 61.

U. gibbus.

T. A. P. S., (27) vol. vi, 1838, pp. 128, 134, 151; Obs. Gen. Unio, (29) vol. ii, pp. 128, 134, 151.

U. gibber.

T. A. P. S., (27) vol. vi, 1836, p. 35, pl. x, f. 30; 1838, pp. 125, 146; Obs. Gen. Unio, (29) vol. ii, pp. 35, 125, 126, pl. x, f. 30.

Unio Gibbesianus.

P. A. P. S., (93) vol. v, 1852, p. 251; T. A. P. S., (79) vol. x, 1852, p. 254; Obs. Gen. Unio, (83) vol. v, p. 10, pl. xii, f. 21.

U. gibbosus.

T. A. P. S., (12) vol. iii, 1829, pp. 409, 412, 419, 423, 432; (20) vol. v, 1833, pp. 89, 102; (27) vol. ii, pp. 10, 37, 124, 131, 133, 146; (43) vol. viii. 1841, pp. 195, 231; P. A. N. S., (115) vol. viii, 1856, p. 213; J. A. N. S., (148) vol. iv, 1858, p. 54; (221) vol. v, 1863, p. 417; (242) vol. vi, 1866, p. 27; (274) vol. viii, 1874, p. 69, pl. xxi, f. 10; Obs. Gen. Unio, (21) vol. i, pp. 23, 26, 31, 37, 46, 201, 214; (29) vol. ii, pp. 10, 37, 124, 131, 134, 146; (44) vol. iii. pp. 33, 69; (150) vol. vi, p. 54; (222) vol. x, p. 53; (244) vol. xi, p. 31; (275) vol. xiii, p. 73, pl. xxi, f. 10.

U. giganteus.

T. A. P. S., (12) vol. iii, 1829, pp. 417, 421; J. A. N. S., (242) vol. vi, 1866, p. 25; Obs. Gen. Unio, (21) vol. i, pp. 31, 35; (244) vol. xi, p. 29.

U. gigas.

T. A. P. S., (27) vol. vi, 1838, pp. 121, 148; Obs. Gen. Unio, (29) vol. ii, pp. 121, 146.

U. glaber.

T. A. P. S., (27) vol. vi, 1836, p. 34, pl. x, f. 29; 1838, pp. 128, 146; J. A. N. S., (189) vol. iv, 1860, p. 341; Obs. Gen. Unio, (29) vol. ii, pp. 34, 128, 146, pl. x, f. 29; (205) vol. viii, p. 23.

U. glabratus.

T. A. P. S., (12) vol. iii, 1829, p. 423; (20) vol. v, 1833, p. 89; (27) vol. vi, 1838, pp. 130, 135; Obs. Gen. Unio, (21) vol. i, pp. 37, 201; (29) vol. ii, pp. 130, 135.

U. glandaceus.

P. A. N. S., (196) vol. xiii, 1861, p. 59; J. A. N. S., (203) vol. v, 1861, p. 77, pl. ix, f. 226; Obs. Gen. Unio, (205) vol. viii, p. 81, pl. ix, f. 226.

U. glans.

T. A. P. S., (15) vol. iv, 1830, p. 82, pl. viii, f. 12; (27) vol. vi, 1834, p. 7; 1838, pp. 129, 146; (43) vol. viii, 1841, p. 245; (54) vol. ix, 1843, p. 275; (79) vol. x, 1852, p. 284; J. A. N. S., (148) vol. iv, 1858, p. 73; (159) vol. iv, 1859, pp. 198, 221; (221) vol. v, 1863, p. 405; Obs. Gen. Unio, (21) vol. i, p. 92, pl. viii, f. 12; (29) vol. ii, pp. 7, 129, 146; (44) vol. iii, p. 83; (56) vol. iv, p. 275; (83) vol. v, p. 40; (150) vol. vi, p. 73; (170) vol. vii, pp. 16, 37; (222) vol. x, p. 41.

U. glebulus.

T. A. P. S., (20) vol. v, 1836, p. 89; (27) vol. vi, 1838, p. 131; Obs. Gen. Unio, (21) vol. i, p. 201; (29) vol. ii, p. 131.

U. globatus.

J. A. N. S., (273) vol. viii, 1874, p. 5, pl. i, f. 1; Obs. Gen. Unio, (275) vol. xiii, p. 9, pl. i, f. 1.

U. globosus.

T. A. P. S., (12) vol. iii, 1829, p. 419; (15) vol. iv, 1831, p. 119; (27) vol. vi, 1838, pp. 104, 126, 146; Obs. Gen. Unio, (21) vol. i, pp. 33, 129; (29) vol. ii, pp. 104, 126, 146.

Unio Goascoranensis.

P. A. N. S., (140) vol. x, 1858, p. 118; J. A. N. S., (168) vol. iv, 1859, pp. 256, 258, pl. xli, f. 139; Obs. Gen. Unio, (170) vol. vii, pp. 74, 76, pl. xli, f. 139.

U. Gouldii.

T. A. P. S., (55) vol. x, 1845, p. 76, pl. vi, f. 16; Obs. Gen. Unio, (56) vol. iv, p. 76, pl. vi, f. 16.

U. gracilentus.

P. A. N. S., (123) vol. ix, 1857, p. 85; J. A. N. S., (203) vol. v, 1861, p. 58, pl. iii, f. 205; Obs. Gen. Unio, (205) vol. viii, p. 62, pl. iii, f. 205.

U. gracilior.

P. A. N. S., (116) vol. viii, 1856, p. 262; J. A. N. S., (148) vol. iv, 1858, p. 56, pl. viii, f. 38; (159) vol. iv, 1859, p. 198; Obs. Gen. Unio, (150) vol. vi, p. 56, pl. viii, f. 38; (170) vol. vii, p. 16.

U. gracilis.

T. A. P. S., (12) vol. iii, 1829, pp. 417, 452; (27) vol. vi, 1836, p. 56; 1838, pp. 121, 146; (43) vol. viii, 1841, p. 231; J. A. N. S., (159) vol. iv, 1859, p. 239; (221) vol. v, 1863, p. 434; Obs. Gen. Unio, (21) vol i, pp. 31, 66; (29) vol. ii, pp. 56, 121, 146; (44) vol. iii, p. 69; (170) vol. vii, p. 48; (222) vol x, p. 70.

U. Granadensis.

J. A. N. S., (257) vol. vi, 1868, p. 293, pl. xlii, f. 103; Obs. Gen. Unio, (259) vol. xii, p. 53, pl. xlii, f. 103.

U. grandidens.

J. A. N. S., (213) vol. v, 1862, p. 205, pl. xxx f. 274; Obs. Gen. Unio, (215) vol. ix, p. 27, pl. xxx, f. 274.

U. graniferus.

T. A. P. S., (27) vol. vi, 1836, p. 69, pl. xix, f. 60; 1838, pp. 123, 146; Obs. Gen. Unio, (29) vol. ii, pp. 69, 123, 146, pl. xix, f. 60.

U. granosa.

T. A. P. S., (12) vol. iii, 1829, p. 424; (20) vol. v, 1833, p. 91; (27) vol. vi, 1838, pp. 124, 130, 148; Obs. Gen. Unio, (21) vol. i, pp. 38, 203; (29) vol. ii, pp. 124, 130, 146.

U. granulatus.

P. A. N. S., (196) vol. xiii, 1861, p. 60; T. A. P. S., (27) vol. vi, 1838, p. 144; J. A. N. S., (242) vol. vi, 1866, p. 48, pl. xvi, f. 46; (258) vol. vi, 1868, p. 327; Obs. Gen. Unio, (29) vol. ii, p. 144; (244) vol. xi, p. 52, pl. xvi, f. 46; (259) vol. xii, p. 87.

U. gratiosus.

J. A. N. S., (133) vol. iii, 1857, pp. 297, 299, 303; (168) vol. iv, 1859, p. 251; (220) vol. v, 1863, p. 298; Obs. Gen. Unio, (150) vol. vi. pp. 17, 19, 23; (170) vol. vii, p. 69; (222) vol. x, p. 34.

U. gratus.

P. A. N. S., (176) vol. xii, 1860, p. 91; J. A. N. S., (220) vol. v, 1863. p. 382, pl. xliii, f. 290; Obs. Gen. Unio, (222) vol. x, p. 18, pl. xliii, f. 290.

Unio gravidus.

P. A. N. S., (110) vol. viii. 1856, p. 93; J. A. N. S., (133) vol. iii, 1857, p. 292, pl. xxiv, f. 5; Obs. Gen. Unio, (150) vol. vi, p. 12, pl. xxiv, f. 5.

U. Grayanus.

T. A. P. S., (20) vol. v, 1833, p. 66, pl. ix, f. 26; 1834, p. 96; (27) vol. vi, 1834, p. 8, 1838, pp. 122, 145; Obs. Gen. Unio, (21) vol. i, pp. 178, 208, pl. ix, f. 26; (29) vol. ii, pp. 8, 122, 145.

U. Greenii.

T. A. P. S., (27) vol. vi, 1838, pp. 127, 146; (55) vol. x, 1845, p. 73; J. A. N. S., (159) vol. iv, 1859, p. 200; Obs. Gen. Unio, (29) vol. ii, pp. 127, 146; (56) vol. iv, p. 73; (170) vol. vii, p. 18.

U. Griffithianus.

T. A. P. S., (20) vol. v, 1834, p. 103, pl. xv, f. 46; (27) vol. vi, 1838, pp. 130, 146; J. A. N. S., (242) vol. vi., 1866, p. 24; Obs. Gen. Unio, (21) vol. i, p. 215, pl. xv, f. 46; (29) vol. ii, pp. 130, 146; (244) vol. xi, p. 28.

U. Grœnlandicus.

T. A. P. S., (27) vol. vi, 1838, pp. 134, 151; Obs. Gen. Unio, (29) vol. ii, pp. 134, 151.

U. Guaraniana.

T. A. P. S., (27) vol. vi, 1838, pp. 134, 151; Obs. Gen. Unio, (29) vol. ii, pp. 134, 151.

U. Gundlachi.

J. A. N. S., (168) vol. iv, 1859, p. 259; Obs. Gen. Unio, (170) vol. vii, p. 77.

U. Hainesianus.

P. A. N. S., (110) vol. viii, 1856, p. 92; J. A. N. S., (133) vol. iii, 1857, p. 289, pl. xxi, f. 1; Obs. Gen. Unio, (150) vol. vi, p. 4, pl. xxi, f. 1.

U. Haleianus.

T. A. P. S., (43) vol. viii, 1842, p. 247, pl. xxvii, f. 63; (55) vol. x, 1845, p. 80; (79) vol. x, 1852, p. 269; Obs. Gen. Unio, (44) vol. iii, p. 85, pl. xxvii, f. 63; (56) vol. iv, p. 80; (83) vol. v, p. 25.

U. Hallenbeckii.

P. A. N. S., (156) vol. xi, 1859, p. 170; J. A. N. S., (148) 1858, vol. iv, p. 83; (189) vol. iv, 1860, pp. 328, 333, pl. li, f. 154; Obs. Gen. Unio, (150) vol. vi, p. 83; (205) vol. viii, pp. 10, 15, 18, pl. li, f. 1, 54.

U. Hanleyianus.

P. A. P. S., (93) vol. v, 1852, p. 251; T. A. P. S., (79) vol. x, 1853, p. 279, pl. xxiii, f. 37; J. A. N. S., (159) vol. iv, 1859, p. 192; (189) vol. iv, 1860, p. 344; (203) vol. v, 1861, pp. 84, 85, 97; Obs. Gen. Unio, (83) vol. v, p. 35, pl. xxiii, f. 37; (170) vol. vii, p. 10; (205) vol. viii, pp. 26, 88, 89, 101.

U. hastatus.

J. A. N. S., (274) vol. viii, 1874, p. 56; Obs. Gen. Unio, (275) vol. xiii, p. 60, pl. xix, f. 54.

U. Hartmanianus.

P. A. N. S., (186) vol. xii, 1860, p. 307; J. A. N. S., (203) vol. v, 1861, p. 73, pl. viii, f. 222; Obs. Gen. Unio, (205) vol. viii, p. 77, pl. viii, f. 222.

Unio Haysianus.

T. A. P. S., (20) vol. v, 1832, pp. 30, 35, pl. iii, f. 7; 1833, p. 69; (27) vol. vi, 1838, pp. 126, 146; J. A. N. S., (148) vol. iv, 1858, p. 75; Obs. Gen. Unio, (20) vol. i, pp. 142, 147, 181, pl. iii, f. 7; (29) vol. ii, pp. 126, 146; (150) vol. vi, p. 75.

U. Hazlehurstianus.

J. A. N. S., (159) vol. iv, 1859, p. 211, pl. xxvi, f. 92; P. A. N. S., (143) vol. x, 1858, p. 166; Obs. Gen. Unio, (170) vol. vii, p. 29, pl. xxvi, f. 92.

U. hebes.

P. A. P. S., (93) vol. v, 1852, p. 251; T. A. P. S., (79) vol. x, 1852, p. 267, pl xviii, f. 21; J. A. N. S., (189) vol. iv, 1860, p. 339; (203) vol. v, 1861, p. 91; (242) vol. vi, 1866, p. 6; Obs. Gen. Unio, (83) vol. v, p. 23, pl. xviii, f. 21; (205) vol. viii, p. 21, 95; (244) vol. xi, p. 10.

U. Heermannii.

P. A. N. S., (200) vol. xiii, 1861, p. 392; J. A. N. S., (213) vol. v, 1862, p. 194, pl. xxvi, f. 263; Obs. Gen. Unio, (215) vol. ix, p. 16, pl. xxvi, f. 263.

U. Hembeli.

T. A. P. S., (79) vol. x, 1852, p. 263; J. A. N. S., (168) vol. iv, 1859, p. 245; Obs. Gen. Unio, (83) vol. v, p. 19; (170) vol. vii, p. 63.

U. hepaticus.

P. A. N. S., (154) vol. xi, 1859, p. 154; J. A. N. S., (189) vol. iv, 1860, p. 248, pl. lvii, f. 173; (242) vol. vi, 1866, p. 14; Obs. Gen. Unio, (205) vol. viii, p. 30, pl. lvii, f. 173; (244) vol. xi, p. 18.

U. heros.

T. A. P. S., (27) vol. vi, 1838, p. 122; Obs. Gen. Unio, (29) vol. ii, p. 122.

U. heterodon.

T. A. P. S., (12) vol. iii, 1829, pp. 409, 411, 420, 428, pl. viii, f. 11; (27) vol. vi, 1836, p. 56; 1838, pp. 124, 146; J. A. N. S., (148) vol. iv, 1858, p. 79; (221) vol. v, 1863, p. 442; Obs. Gen. Unio, (21) vol. i, pp. 23, 25, 34, 42, pl viii, f. 11; (29) vol. ii, pp. 56, 124, 146; (150) vol. vi, p. 79; (222) vol. x, p. 78.

U. hians.

T. A. P. S., (27) vol. vi, 1838, p. 135; Obs. Gen. Unio, (29) vol. ii, p. 135.

U. Higginsii.

P. A. N. S., (121) vol. ix, 1857, p. 84; J. A. N. S., (213) vol. v, 1862, p. 188, pl. xxiv, f. 258; Obs. Gen. Unio, (215) vol. ix, p. 10, pl. xxiv, f. 258.

U. Hildrethianus.

T. A. P. S., (20) vol. v, 1832, pp. 36, 64, pl. iii, f. 8; (27) vol. vi, 1838, pp. 128, 146; Obs. Gen. Unio, (21) vol. i, pp. 148, 176, pl. iii, f. 8; (29) vol. ii, pp. 128, 146.

U. hippopæus.

T. A. P. S., (55) vol. x, 1845, p. 67, pl. i, f. 1; Obs. Gen Unio, (56) vol. iv, p. 67, pl. i, f. 1.

U. Holstonensis.

P. A. P. S., (35) vol. i, 1840, p. 288; T. A. P. S., (43) vol. viii, 1840, p. 212, pl. xv, f. 27; Obs. Gen. Unio, (44) vol. iii, p. 50, pl. xv, f. 27.

Unio Homsensis.

J. A. N. S., (257) vol. vi, 1868, p. 249, pl. xxix, f. 63; Obs. Gen. Unio, (259) vol. xii, p. 9, pl. xxix, f. 63.

U. Hopetonensis.

T. A. P. S., (27) vol. vi, 1836, p. 29, pl. ix, f 24; 1838, pp. 129, 146; (79) vol. x, 1852, p. 263; J. A. N. S., (133) vol. iii, 1857, p. 305; (221) vol. v, 1863, p. 415; P. A. N. S., (131) vol. ix, 1857, p. 205; Obs. Gen. Unio, (29) vol. ii, pp. 29, 129, 146, pl ix, f. 24; (83) vol. v, p. 19; (150) vol. vi, p. 25; (222) vol. x, p. 51.

U Housei.

P. A. N. S., (110) vol. viii, 1856, p. 92; J. A. N. S., (133) vol. iii, 1857, pp. 290, 291, pl. xxiii, f. 3; Obs. Gen. Unio, (150) vol. vi, pp. 10, 11, pl. xxiii, f. 3.

U. Houstonensis.

P. A. N. S., (154) vol xi, 1859, p. 155; J. A. N. S., (189) vol. iv, 1860, pp. 358, 372, pl. lx, f. 182; Obs. Gen. Unio, (205) vol. viii, pp. 40, 54, pl. lx, f. 183.

U. humerosus.

J. A. N. S., (257) vol. vi, 1868, p. 301, pl. xlv, f. 113; Obs. Gen. Unio, (259) vol xii, p. 61, pl. xlv, f. 113.

U. humilis.

P. A. N. S., (110) vol. viii, 1856, p. 93; J. A. N. S., (133) vol. iii, 1857, pp. 296, 297, pl. xxvi, f. 10; Obs. Gen. Unio, (150) vol. vi, pp. 16, 17, pl. xxvi, f. 10.

U. hyalinus.

T. A. P. S , (55) vol. x, 1845, pp. 69, 71, pl. ii, f. 4; Obs. Gen. Unio, (56) vol. iv, pp. 69, 71, pl. ii, f. 4.

U. hybridus.

T. A. P. S., (27) vol. vi, 1838, pp 134, 151; Obs. Gen. Unio, (29) vol. ii, pp. 134, 151.

U. Hydianus.

T. A. P. S., (27) vol. vi, 1834, p, 14, pl. vi, f. 14; 1838, pp. 106, 127, 146; (55) vol. x, 1845, pp. 75, 76; J. A. N. S., (274) vol. viii, 1874, p. 68; Obs. Gen. Unio, (29) vol. ii, pp. 14, 106, 127, 146, pl. vi, f. 14; (56) vol. iv, pp. 75, 76; (275) vol. xiii, p. 72.

U. hylœa.

T. A. P. S., (27) vol. vi, 1838, pp. 134, 151; Obs. Gen. Unio, (29) vol. ii, pp. 134, 151.

U. icterinus.

T. A. P. S., (27) vol. vi, 1838, p. 130; Obs. Gen, Unio, (29) vol. ii, p. 130.

U. inerassatus.

P. A. P. S., (35) vol, i, 1840, p. 286; T. A. P. S., (43) vol. viii, 1840, p. 217, pl. xvi, f. 34; (79) vol, x, 1852, p. 264; J. A. N. S., (159) vol. iv, 1859, p. 217; (221) vol. 5, 1863, p. 409; Obs. Gen. Unio, (44) vol. iii, p. 55. pl. xvi. f. 34; (83) vol. v, p. 40; (170) vol. vii, p. 35; (222) vol. x, p. 45.

U. ineurvus.

T. A. P. S., (15) vol. iv, 1830, p. 97, pl. xiii, f. 27; (20) vol. v, 1833, p. 90; (27) vol. vi, 1838, p. 130; Obs. Gen. Unio, (21) vol. i, pp. 107, 202, pl. xiii, f. 27; (29) vol. ii, p. 130.

Unio indefinitus.

J. A. N. S., (242) vol. vi, 1866, p. 15, pl. iv, f. 12; Obs. Gen. Unio, (244) vol. xi, p. 19, pl. iv, f. 12.

U. ineptus.

T. A. P. S., (79) vol. x, 1852, p. 261, pl. xv, f. 12; J. A. N. S., (242) vol. vi, 1866, p. 21; Obs. Gen. Unio, (83) vol. v, p. 17, pl. xv, f. 12; (244) vol. xi, p. 25.

U. inflatus.

T. A. P. S., (12) vol. iii, 1829, p. 419; (27) vol. vi, 1838, pp. 121. 127, 146; J. A. N. S., (221) vol. v, 1863, p. 435; P. A. N. S., (118) vol. ix, 1857, p. 18; Obs. Gen. Unio, (21) vol. i, p. 33; (29) vol. ii, pp. 121, 127, 146; (222) vol. x, p. 71.

U. infucatus.

T. A. P. S., (27) vol. vi, 1838, pp. 131, 146; (79) vol. x, 1852, p. 265; J. A. N. S., (221) vol. v, 1863, p. 407; Obs. Gen. Unio, (29) vol. ii, pp. 131, 146; (83) vol. v, p. 21; (222) vol. x, p. 43.

U. infulgens.

J. A. N. S., (274) vol. viii, 1874, p. 60, pl. xxi, f. 59; Obs. Gen. Unio, (275) vol. xiii, p. 64, pl. xxi, f 59.

U. infuscus.

J. A. N. S., (273) vol. viii, 1874. p. 51, pl. xvii, f 49; Obs. Gen. Unio, (275) vol. xiii, p. 55, pl. xvii, f. 49.

U. Ingallsianus.

P. A. P. S., (93) vol. v, 1852, p. 251; T. A. P. S., (79) vol. x, 1852, p. 282, pl. xxiv, f. 41; J. A. N. S., (133) vol. iii, 1857, pp. 298, 300; (242) vol. vi, 1866, p. 62; Obs. Gen. Unio, (83) vol. v, p. 38, pl. xxiv, f. 41; (150) vol. vi, pp. 18, 20; (244) vol. xi, p. 66.

U. inornatus.

P. A. N. S., (110) vol. viii, 1856, p. 93; J. A. N. S., (133) vol. iii, 1857, pp. 293, 300, pl. xxiv, f. 6; (168) vol. iv, 1859, p. 257; Obs. Gen. Unio, (150) vol. vi, pp. 13, 20, pl. xxiv, f. 6; (170) vol. vii, p. 75.

U. insolidus.

J. A. N. S., (273) vol. viii, 1874, p. 40, pl. xiii, f. 37; Obs. Gen. Unio, (275) vol. xiii, p. 44, pl. xiii, f. 37

U. instructus.

P. A. N. S., (196) vol. xiii, 1861, p. 59; J. A. N. S., (203) vol. v, 1861, pp. 72, 78, 82, pl. x, f. 230; Obs. Gen. Unio, (205) vol. viii, pp. 76, 82, 86, pl. x, f. 239.

U. insulsus.

P. A. N. S., (123) vol. ix, 1857, p. 86; J. A. N. S., (203) vol. v, 1861, p. 53, pl. i. f 199; Obs. Gen. Unio, (205) vol. viii, p. 57, pl. i, f. 199.

U. intercedens.

P. A. N. S., (119) vol ix, 1857, p. 32; J. A. N. S., (148) vol. iv, 1858, pp. 77, 80. pl. xv, f. 57; (189) vol. iv, 1860, p. 328; Obs. Gen. Unio, (150) vol. vi, pp. 77, 80, pl. xv, f. 57; (205) vol. viii. p. 10.

U. intermedius.

T. A. P. S., (43) vol. viii, 1840, p. 211; (79) vol. x, 1852, p. 267; Obs. Gen. Unio, (44) vol. iii, p. 49; (83) vol. v, p. 23.

Unio interruptus.

T. A. P. S., (27) vol. vi, 1834, p. 15, pl. vi, f. 15; 1836, p. 76; 1838, pp. 122, 127, 144, 146; (43) vol. viii, 1841, p. 234; J. A. N. S., (189) vol. iv, 1860, p. 351; Obs. Gen. Unio, (29) vol. ii, pp. 15, 76, 122, 127, 144, 146, pl. vi, f. 15; (44) vol. iii, p. 72; (205) vol. viii, p. 33.

U. interventus.

P. A. N. S., (196) vol. xiii, 1861, p. 60; J. A. N. S., (203) vol. v, 1861, p. 84, pl. xi, f. 233; Obs. Gen. Unio, (205) vol. viii, p. 88, pl. xi, f. 233.

U. inusitatis.

P. A. N. S., (156) vol. xi, 1859, p. 171; J. A. N. S., (189) vol. iv, 1860, p. 333, pl. lii, f. 158; (203) vol. v, 1861, p. 93; (242) vol. vi, 1866, p. 14; Obs. Gen. Unio, (205) vol. viii, p. 15, 97 (also errata) pl. xv, f. 158; (244) vol. xi, p. 18.

U. invenustus.

J. A. N. S., (274) vol. viii, 1874, p. 66, pl. xxii, f. 62; Obs. Gen. Unio, (275) vol. xiii, p. 70, pl. xxii, f. 62.

U. iris.

T. A. P. S., (12) vol. iii, 1829, pp. 409, 411, 421, 439, pl. xi, f. 18; (20) vol. v, 1832, p. 37, 64; (27) vol. vi, 1836, pp. 25, 34, 41; 1838, pp. 105, 133, 146; (43) vol. viii, 1840, pp. 192, 202; (55) vol. x, 1845, p. 80; J. A. N. S., (189) vol. iv, 1860, pp. 350, 357; (221) vol. v, 1863, p. 419; Obs. Gen. Unio, (21) vol. i, pp. 23, 25, 35, 53, 149, 166, pl. xi, f. 18; (29) vol. ii, pp. 25, 34, 41, 105, 133, 146; (44) vol. iii, p. 30, 40; (56) vol. iv, p. 80; (205) vol. viii, pp. 32, 39; (222) vol. x, p. 55.

U. irrasus.

P. A. N. S., (192) vol. xiii, 1861, p. 38; J. A. N. S., (203) vol. v, 1861, p. 91, pl. xiii, f. 239; Obs. Gen. Unio, (205) vol. viii, p. 95, pl. xiii, f. 239.

U. irreptus.

P. A. P. S., (93) vol. ii, 1852, p. 251.

U. irroratus.

T. A. P. S., (9) vol. iii, 1827, p. 269, pl. v, f. 5; (12) vol. iii, 1829, pp. 70, 406, 407, 409, 411, 412, 414, 420; (27) vol. vi, 1836, p. 49, 51; 1838, pp. 123, 146; (43) vol. viii, 1841, p. 231; (55) vol. x, 1845, p. 75; (79) vol. x, 1852, p. 267; J. A. N. S., (147) vol. iv, 1858, p. 44; (213) vol. v, 1863, p. 206; (221) vol. v, 1863, pp. 401, 433; Obs. Gen. Unio, (21) vol. i, pp. 11, 20, 21, 23, 25, 26, 28, 34, 182, pl. v, f. 5; (29) vol. ii, pp. 49, 51, 123, 146; (44) vol iii, p. 69; (56) vol. iv, p. 75; (83) vol. v, p. 23; (150) vol. vi, p. 44; (215) vol. ix, p. 28; (222) vol. x, pp. 37, 69.

U. Irwinensis.

J. A. N. S., (273) vol. viii, 1874, p. 41, pl. xv, f. 42; Obs. Gen. Unio, (275) vol. xiii, p. 48, pl. xv, f. 42.

U. Jamesianus.

P. A. N. S., (121) vol. ix, 1857, p. 84; J. A. N. S., (148) vol. iv, 1858, p. 52, pl. vi, f. 35; Obs. Gen. Unio, (150) vol. vi, p. 52, pl. vi, f. 35.

U. Japanensis.

P. A. N. S., (152) vol. xi, 1859, p. 153; J. A. N. S., (168) vol. iv. 1859, p. 244, pl. xxxvi, f. 123; Obs. Gen. Unio, (170) vol. vii, p. 62, pl. xxxvi, f. 123.

Unio Jaranus.

P. A. P. S., (35) vol. i, 1840, p. 285; T. A. P. S., (43) vol. viii, 1840, p. 220, pl. xviii, f. 37; J. A. N. S., (133) vol. iii, 1857, p. 294; (168) vol. iv, 1859, p. 239; Obs. Gen. Unio, (14) vol. iii, p. 58, pl. xviii, f. 37; (150) vol. vi, p. 14; (170) vol. vii, p. 57.

U. Jayensis.

T. A. P. S., (27) vol. vi, 1836, p. 28, pl. ix, f. 23, 1838, pp. 132, 146; Obs. Gen. Unio, (29) vol. ii, pp. 28, 132, 146, pl. ix, f. 23.

U. Jeffreysianus.

J. A. N. S., (273) vol. viii, 1874, p. 23, pl. vii, f. 20; Obs. Gen. Unio, (275) vol. xiii, p. 27, pl. vii, f. 20.

U. jejunus.

T. A. P. S., (27) vol. vi, 1834, p. 9, pl. iv, f. 9; 1838, pp. 130, 146; Obs. Gen. Unio, (29) vol. ii, pp. 9, 130, 146, pl. iv, f. 9.

U. Jewettii.

J. A. N. S., (257) vol. vi, 1868, p. 276, pl. xxxvii, f. 89; Obs. Gen. Unio, (259) vol. xii, p. 36, pl. xxxvii, f. 89.

U. Johannis.

P. A. N. S., (156) vol. xi, 1859, p. 171; J. A. N. S., (189) vol. iv, 1860, p. 343, pl. lv, f. 168; Obs. Gen. Unio, (205) vol. viii, p. 25, pl. lv, f. 168.

U. Jonesii.

P. A. N. S., (156) vol. xi, 1859, p. 171; J. A. N. S., (189) vol. iv, 1860, p. 339, pl. liv, f. 164; Obs. Gen. Unio, (205) vol. viii, p. 21, pl. liv, f. 164.

U. Jordanicus.

J. A. N. S., (242) vol. vi, 1866, p. 53; Obs. Gen. Unio, (241) vol. xi, p. 57.

U. Juliani.

T. A. P. S., (27) vol. vi, 1838, pp. 134, 151; Obs. Gen. Unio, (29) vol. ii, pp. 134, 151.

U. Katherinæ.

T. A. P. S., (27) vol. vi. 1838, pp. 143, 146; Obs. Gen. Unio, (29) vol. ii, pp. 143, 146.

U. Keinerianus.

P. A. P. S., (92) vol. v, 1852, p. 251; T. A. P. S., (79) vol. x, 1852, p. 281, pl. xxiii, f. 40; Obs. Gen. Unio, (83) vol. v, p. 37, pl. xxiii, f. 40.

U. Keraudreni.

J. A. N. S., (133) vol. iii, 1857, p. 311; Obs. Gen. Unio, (150) vol. vi. p. 31.

U. Kirkii.

J. A. N. S., (242) vol. vi, 1866, pp. 32, 34, pl. xii, f. 30; Obs. Gen. Unio, (244) vol. xi, pp. 36, 38, pl. xii, f. 30.

U. Kirtlandianus.

T. A. P. S., (20) vol. v, 1834, p. 98, pl. xiv, f. 41; (27) vol. vi, 1838, pp. 131, 146; Obs. Gen. Unio, (21) vol. i, p. 210, pl. xiv, f. 41; (29) vol. ii, pp. 131, 146.

U. Kleinianus.

P. A. P. S., (93) vol. v, 1852, p. 251; T. A. P. S., (79) vol. x, 1852, p. 265; J. A. N. S., (221) vol. v, 1863, pp. 401, 417, 418; Obs. Gen. Unio, (83) vol. v, p. 21, pl. xvii, f. 18; (222) vol. x, pp. 40, 53, 64.

Unio Kullethensis.

J. A. N. S., (257) vol. vi, 1868, p. 251, pl. xxix, f. 65; Obs. Gen. Unio, (259) vol. xii, p. 11, pl. xxix, f. 65.

U. Labacensis.

T. A. P. S., (27) vol. vi, 1838, p. 128; Obs. Gen. Unio, (29) vol. ii, p. 128.

U. lacrymosus.

T. A. P. S., (9) vol. iii, 1827, p. 272, pl. vi, f. 8; (12) vol. iii, 1829, pp. 407, 409, 410, 411, 413, 414, 420; (15) vol. iv, 1830, pp. 64, 72, 86; (27) vol. vi, 1838. pp. 123, 146; (43) vol. viii, 1841, p. 231; P. A. P. S., (66) vol. v, 1851, p. 192; P. A. N. S., (135) vol. x, 1858, p. 13; J. A. N. S., (148) vol. iv, 1858, p. 66; (189) vol. iv, 1860, p. 358; (221) vol. v, 1863, p. 431; Obs. Gen. Unio, (21) vol. i, pp. 14, 21, 23, 24, 25, 27. 28, 34, 74, 82, 96, pl. v, f. 8; (29) vol. ii, pp. 123, 146; (44) vol. iii, p. 69; (150) vol. vi, p. 66; (205) vol. viii, p. 40; (222) vol. x, p. 67.

U. lacteolus.

T. A. P. S., (20) vol. v, 1832, pp. 40, 61, 63, 90, pl. viii, f. 19; (27) vol. vi, 1838, p. 128; (43) vol. viii, 1840, p. 200; J. A. N. S., (133) vol. iii, 1857, p. 309; Obs, Gen. Unio, (21) vol. i, pp. 152, 173, 180, 202, pl. viii, f. 19; (29) vol. ii, p. 128; (44) vol. iii, p. 38; (150) vol. vi, p. 29.

U. lævigata.

T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

U. lævissimus.

T. A. P. S., (27) vol. vi, 1838, pp. 121, 146; (43) vol. viii, 1840, pp. 219, 231; P. A. N. S., (135) vol. x, 1858, pp. 13, 14; J. A. N. S., (147) vol. iv, 1858, pp. 45, 48, pl. v, f. 24; (221) vol. v, 1863, pp. 425, 434; (242) vol. vi, 1866, p. 35; Obs. Gen. Unio, (29) vol. ii, pp. 121, 146; (44) vol. iii, pp. 57, 69; (150) vol. vi, pp. 45, 48, pl. v, f. 24; (222) vol. x, pp. 61, 70; (244) vol. xi, p. 39.

U. Lamarckianus.

P. A. P. S., (93) vol. v, 1852, p. 251; T. A. P. S., (79) vol. x, 1852, p. 266, pl. xvii, f. 20; Obs. Gen. Unio, (83) vol. v, p. 22, pl. xvii, f. 20.

U. lamellatus.

T. A. P. S., (27) vol. vi, 1835, p. 19, pl. vi, f. 16; 1838, p. 128; J. A. N. S., (168) vol. iv, 1859, pp. 244, 273; (242) vol. vi, 1866, p. 23; Obs. Gen. Unio, (29) vol. ii, pp. 19, 128, pl. xix, f. 16; (170) vol. vii, pp. 62, 91; (244) vol. xi, p. 27.

U. lamobrachys.

T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio., (29) vol. ii, p. 144.

U. lanceolata.

T. A. P. S., (9) vol. iii, 1827, p. 266, pl. iii, f. 2; (12) vol. iii, 1829, pp. 406, 409, 413, 420; (20) vol. v, 1834, p. 97; (27) vol. vi, 1838, pp. 132, 146; (43) vol. viii, 1840, p. 197; J. A. N. S., (203) vol. v, 1861, pp. 55, 60; (242) vol. vi, 1866, p. 11; Obs. Gen. Unio, (21) vol. i, pp. 8, 20, 23, 27, 34, 209, pl. iii, f. 2; (29) vol. ii, pp. 132, 146; (205) vol. viii, pp. 59, 64; (244) vol. xi, p. 15.

Unio Laosensis.

J. A. N. S., (242) vol. vi, 1866, p. 63, pl. xxi, f. 61; Obs. Gen. Unio, (244) vol. xi, p. 67, pl. xxi, f. 61.

U. lapillus.

T. A. P. S., (27) vol. vi, 1838, pp. 28, 129; J. A. N. S., (221) vol. v, 1863, p. 423; Obs. Gen. Unio, (29) vol. ii, pp. 128, 129; (222) vol. x, p. 59.

U. latecostatus.

T. A. P. S., (55) vol. x, 1845, p. 68, pl. i, f. 2; Obs. Gen. Unio, (56) vol. iv, p. 68, pl. i, f. 2.

U. lateralis.

T. A. P. S., (27) vol. vi, 1838, pp. 125, 144; Obs. Gen. Unio, (29) vol. ii, pp. 125, 144.

U. latissima.

T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

U. latus.

T. A. P. S., (27) vol. vi, 1838, p. 131; P. A. P. S., (156) vol. xi, 1859, p. 171; J. A. N. S., (189) vol. iv, 1860, p. 334, pl. liii, f. 159; Obs. Gen. Unio. (29) vol. ii, p. 131; (205) vol. viii, p. 16, pl. liii, f. 159.

U. Lawii.

J. A. N. S., (273) vol. viii, 1874, p. 8, pl. ii, f. 4; Obs. Gen. Unio, (275) vol. xiii, p. 12, pl. ii, f. 4.

U. Layardii.

P. A. N. S., (152) vol. xi, 1859, p. 153; J. A. N. S., (168) vol. iv, 1859, pp. 243, 273, pl. xxxvi, f. 122; Obs. Gen. Unio, (170) vol. vii. pp. 61, 91, pl. xxxvi, f. 122.

U. Lazarus.

P. A. P. S., (93) vol. v, 1852, p. 251; T. A. P. S., (79) vol. x, 1852, p. 259, pl. xiv, f. 9; Obs. Gen. Unio, (83) vol. v, p. 15, pl. xiv, f. 9.

U. Leaii.

T. A. P. S., (20) vol. v, 1832, p. 43; (27) vol. vi, 1838, pp. 124, 145; Obs. Gen. Unio, (29) vol. ii, pp. 124, 145.

U. Lecontianus.

T. A. P. S., (27) vol. vi, 1836, p. 40, pl. xii, f. 35, 1838, pp. 126, 147; (79) vol. x, 1852, p. 268; J. A. N. S., (148) vol. iv, 1858. p. 64; (159) vol. iv, 1859, pp. 209, 211, 217; (203) vol. v, 1861, p. 80; Obs. Gen. Unio, (29) vol. ii, pp. 40, 126, 147, pl. xii, f. 35; (83) vol. v, p. 24; (150) vol. vi, p. 64; (170) vol. vii, pp. 27, 29, 35; (205) vol. viii, p. 84.

U. ligamentinus.

J. A. N. S., (148) vol. iv, 1858, p. 78; Obs. Gen. Unio, (150) vol. vi, p. 78.

U. Leibii.

J. A. N. S., (242) vol. vi, 1866, p. 44, pl. xv, f. 42; Obs. Gen. Unio, (244) vol. xi, p. 48, pl. xv, f. 42.

U. lenior (same as *lenis*).

T. A. P. S., (43) vol. viii, 1840, p. 204, pl. xii, f. 18; Obs. Gen. Unio, (44) vol. iii, p. 42, pl. xii, f. 18.

U. lenis (same as *lenior*).

P. A. P. S., (35) vol. i, 1840, p. 286.

Unio lens.

T. A. P. S., (15) vol. iv, 1830, p. 80, pl. viii, f. 10; (27) vol. vi, 1838, pp 130, 147; (55) vol. x, 1845, p. 74; J. A. N. S., (221) vol. v, 1863, p. 428; Obs. Gen. Unio, (21) vol. i, p. 90, pl. viii, f. 10; (29) vol. ii, pp. 130, 147; (56) vol. iv, p. 74; (222) vol. x, p. 64.

U. lenticularis.

J. A. N. S., (273) vol. viii, 1874, p. 30, pl. ix, f. 27; Obs. Gen. Unio, (275) vol. xiii, p. 34, pl. ix, f. 27.

U. lepidus.

P. A. N. S., (176) vol. xii, 1860, p. 91; J. A. N. S., (220) vol. v, 1863, pp. 380, 389, pl. l, f. 306; Obs. Gen. Unio, (222) vol. x, pp. 16, 25, pl. il, f. 306.

U. leptodon.

T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

U. Lesleyi.

P. A. N. S., (185) vol. xii, 1860, p. 306; J. A. N. S., (189) vol. iv, 1860, p. 352, pl. lviii, f. 177; Obs. Gen. Unio, (205) vol. viii, p. 34, pl. lviii, f. 177.

U. Lesueurianus.

P. A. P. S., (35) vol. i, 1840, p. 286; T. A. P. S., (43) vol. viii, 1840, p. 195, pl. viii, f. 6; Obs. Gen. Unio, (44) vol. iii, p. 33, pl. viii, f. 6.

U. Lewisii.

P. A. N. S., (192) vol. xiii, 1861, p. 40; J. A. N. S., (203) vol. v, 1861, p. 71, pl. viii, f. 220; (258) vol. vi, 1868, p. 327; Obs. Gen. Unio, (205) vol. viii, p. 75, pl. viii, f. 220; (259) vol. xii, p. 87.

U. lienosus.

T. A. P. S., (27) vol. vi, 1838, pp. 128, 147; Obs. Gen. Unio, (29) vol. ii, pp. 128, 147.

U. ligamentina.

T. A. P. S., (12) vol. iii, 1829, p. 422; (20) vol. v, 1833, p. 88; (27) vol. vi, 1838, p. 127; (79) vol. x, 1852, p. 276; J. A. N. S., (147) vol. iv, 1858, p. 47, pl. v, f. 18; (148) vol. iv, 1858, p. 82; (159) vol. iv, 1859, p. 193; (189) vol. iv, 1860, p. 369; (203) vol. v, 1861, p. 62; (213) vol. v, 1862, p. 189; (221) vol. v, 1863, p. 244; Obs. Gen. Unio, (21) vol. i, pp. 36, 200; (29) vol. ii, p. 127; (83) vol. v, p. 32; (150) vol. vi, pp. 47, 82, pl. v, f. 18; (170); vol. vii, p. 11; (205) vol. viii, pp. 51, 66; (215) vol. ix, p. 11; (222) vol. x, p. 60.

U. ligatus.

J. A. N. S., (273) vol. viii, 1874, p. 49, pl. xvii, f. 47; Obs. Gen. Unio, (275) vol. xiii, p. 53, pl. xvii, f. 47.

U. Limagnæ.

T. A. P. S., (27) vol. vi, 1838, p. 132; Obs. Gen. Unio, (29) vol. ii, p. 132.

U. limatulus.

J. A. N. S., (221) vol. v, 1863, p. 407; Obs. Gen. Unio, (222) vol. x, p. 43.

U. limosa.

T. A. P. S., (27) vol. vi, 1838, p. 132; Obs. Gen. Unio, (29) vol. ii, p. 132.

U. Limovianseæ.

T. A. P. S., (27) vol. vi, 1838, p. 132; Obs. Gen. Unio, (29) vol. ii, p. 132.

Unio Lincecumii.

J. A. N. S., (258) vol. vi, 1868, p. 312, pl. xlix, f. 125; Obs. Gen. Unio, (259) vol. xii, p. 72, pl. xlix, f. 125.

U. Lindsleyi.

P. A. N. S., (185) vol. xii, 1860, p. 306; J. A. N. S., (189) vol. iv, 1860, p. 351, pl. lviii, f. 176; Obs. Gen. Unio, (205) vol. viii, p. 33, pl. lviii, f. 176.

U. lineatus.

P. A. P. S., (35) vol. i, 1840, p. 287; T. A. P. S., (43) vol. viii, 1840, p. 206, pl. xii, f. 20; J. A. N. S., (221) vol. v, 1863, pp. 407, 414; Obs. Gen. Unio, (44) vol. iii, p. 44, pl. xii, f. 20; (222) vol. x, pp. 43, 50.

U. lineolata.

T. A. P. S., (27) vol. vi, 1838, pp. 124, 144; Obs. Gen. Unio, (29) vol. ii, pp. 124, 144.

U. linguæformis.

P. A. N. S., (183) vol. xii, 1860, p. 305; J. A. N. S., (189) vol. iv, 1860, p. 345, pl. lvi, f. 170; Obs. Gen. Unio, (205) vol. viii, p. 27, pl. lvi, f. 170.

U. Listeri.

T. A. P. S., (27) vol. vi, 1838, pp. 134, 151; Obs. Gen. Unio, (29) vol. ii, pp. 134, 151.

U. littoralis.

T. A. P. S., (12) vol. iii, 1829, p. 423; (20) vol. v, 1833, pp. 88, 90; (27) vol. vi, 1838, pp. 130, 137, 145; Obs. Gen. Unio, (21) vol. i, pp. 37, 200, 201, 202; (29) vol. ii, pp. 130, 137, 145.

U. litus.

J. A. N. S., (273) vol. viii, 1874, p. 17, pl. v, f. 13; Obs. Gen. Unio, (275) vol. xiii, p. 21, pl. v, f. 13.

U. lividus.

T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

U. Livingstonensis

J. A. N. S., (242) vol. vi, 1866, p. 14, pl. iv, f. 11; Obs. Gen. Unio, (244) vol. xi, p. 18, pl. iv, f. 11.

U. locellus.

J. A. N. S., (257) vol. vi, 1858, p. 264, pl. xxxiii, f. 79; Obs. Gen. Unio, (259) vol. xii, p. 24, pl. xxx, f. 79.

U. longirostris.

T. A. P. S., (27) vol. vi, 1838, p. 132; Obs. Gen. Unio, (29) vol. ii, p. 132.

U. lucidus.

J. A. N. S., (242) vol. vi, 1866, p. 9, pl. ii, f. 6; Obs. Gen. Unio, (244), vol. xi, p. 13, pl. ii, f. 6.

U. lugubris.

T. A. P. S., (20) vol. v, 1833, p. 88; (27) vol. vi, 1836, p. 30, pl. ix, f. 25; (27) vol. vi, 1838, pp. 132, 133, 147; J. A. N. S., (159) vol. iv, 1859, p. 212; (220) vol. v, 1863, p. 380; (221) vol. v, 1863, p. 414; Obs. Gen. Unio, (21) vol. i, p. 200; (29) vol. ii, pp. 30, 132, 133, 147, pl. ix, f. 25; (170) vol. vii, p. 30; (222) vol. x, pp. 16, 50.

U. luridus.

P. A. P. S., (93) vol. v, 1852, p. 251; T. A. P. S., (79) vol. x, 1852, p. 273, pl. xx, f. 29; J. A. N. S., (148) vol. iv, 1858, p. 54; Obs. Gen. Unio, (83) vol. v, p. 29, pl. xx, f. 29.

Unio lutens (same as *U. luteus*).
P. A. N. S., (110) vol. viii, 1856, p. 93.

U. luteolus.
T. A. P. S., (12) vol. iii, 1829, pp. 417, 425; (20) vol. v, 1833, p. 91; (27) vol. vi, 1834, p. 15; 1836, pp. 34, 49, 56; 1838, pp. 106, 126, 127, 147; (43) vol. viii, 1841, p. 231; (55) vol. x, 1845, p. 79; (79) vol. x, 1852, pp. 271, 273; P. A. N. S., (135) vol. x, 1858, p. 13; J. A. N. S., (147) vol. iv, 1858, p. 47, pl. v, f. 10; (213) vol. v, 1861, p. 215; (220) vol. v, 1863, p. 382; (221) vol. v, 1863, pp. 402, 414; (242) vol. vi, 1866, p. 27; Obs. Gen. Unio, (21) vol. i, pp. 31, 39, 203; (29) vol. ii, pp. 15, 34, 49, 56, 106, 126, 127, 147; (44) vol. iii, p. 69; (56) vol. iv, p. 79; (83) vol. v, pp. 27, 29; (150) vol. vi, p. 47, pl. v, f. 10; (215) vol. ix, p. 37; (222) vol. x, pp. 18, 38, 50; (244) vol. xi, p. 31.

U. luteus. (see *U. lutens*),
J. A. N. S., (133) vol. iii, 1857, p. 291, pl. xxiv, f. 4; Obs. Gen. Unio, (150) vol. vi, p. 11, pl. xxiv, f. 4.

U. Lagonii.
P. A. N. S., (235) vol. xvii, 1865, p. 89; J. A. N. S., (257) vol. vi, 1868, p. 259, pl. xxxii, f. 74; Obs. Gen. Unio, (259) vol. vii, p. 19, pl. xxxii, f. 74.

U. macer.
P. A. N. S., (123) vol. ix, 1857, p. 86; J. A. N. S., (213) vol. v, 1862, p. 202, pl. xxix, f. 271; Obs. Gen. Unio, (215) vol. ix, p. 24, pl. xxix, f. 271.

U. Macnielii.
J. A. N. S., (273) vol. viii, 1874, p. 250, pl. viii, f. 22; Obs. Gen. Unio, (275) vol. xiii, p. 29, pl. viii, f. 22.

U. Maconensis.
P. A. N. S., (129) vol. ix, 1857, p. 172; J. A. N. S., (148) vol. iv, 1858, pp. 93, 95, pl. xx, f. 73; Obs. Gen. Unio, (150) vol. vi, pp. 93, 95, pl. xx, f. 73.

U. macrodon.
P. A. N. S., (154) vol. xi, 1859, p. 154; J. A. N. S., (213) vol. v, 1862, p. 193, pl. xxvi, f. 262; Obs. Gen. Unio, (215) vol. ix, p. 15, pl. xxvi, f. 262.

U. maculatus.
T. A. P. S., (27) vol. vi, 1838, pp. 131, 147; (43) vol. viii, 1840, p. 210; Obs. Gen. Unio, (29) vol. ii, pp. 131, 147; (44) vol. iii, p. 48.

U. maestus..
P. A. P. S., (40) vol. ii, 1841, p. 82; T. A. P. S., (43) vol. viii, 1841, p. 244, pl. xxvi, f. 60; Obs. Gen. Unio, (44) vol. iii, p. 82, pl. xxvi, f. 60.

U. manca.
T. A. P. S., (12) vol. iii, 1829, p. 425; (20) vol. v, 1833, p. 91; (27) vol. vi, 1838, p. 132; Obs. Gen. Unio, (21) vol. i, pp. 39, 203; (29) vol. ii, p. 32.

U. manubius.
J. A. N. S., (148) vol. iv, 1858, p. 53; Obs. Gen. Unio, (150) vol. vi, p. 53.

U. Mardinensis.
J. A. N. S., (257) vol. vi, 1868, p. 252, pl. xxx, f. 66; Obs. Gen. Unio, (259) vol. xii, p. 12, pl. xxx, f. 66.

Unio marginalis.
T. A. P. S., (12) vol. iii, 1829, p. 425; (20) vol. v, 1832, p. 41; 1833, pp. 66, 92; 1834, p. 97; (27) vol. vi, 1838, pp. 132, 145; J. A. N. S., (168) vol. iv, 1859, p. 244; Obs. Gen. Unio, (21) vol. i, pp. 39, 153, 178, 264, 209; (29) vol. ii, pp. 132, 145; (170) vol. vii, p. 62.

U. marginis.
P. A. N. S., (235) vol. xvii, 1865, p. 89; J. A. N. S., (257) vol. vi, 1868, p. 255, pl. xxxi, f. 69; Obs. Gen. Unio, (259) vol. xii, p. 15, pl. xxxi, f. 69.

U. margaritacea.
T. A. P. S., (27) vol. vi, 1838, p. 134; Obs. Gen. Unio, (29) vol. ii, p. 134.

U. margaritifera.
T. A. P. S., (12) vol. iii, 1829, p. 423; (20) vol. v, 1833, p. 88; (27) vol. vi, 1838, p. 136; Obs. Gen. Unio, (21) vol. i, pp. 37, 200; (29) vol. ii, p. 136.

U. Masoni.
T. A. P. S., (27) vol. vi, 1838, pp. 131, 147; Obs. Gen. Unio, (29) vol. ii, pp. 131, 147.

U. Mauritianus.
P. A. N. S., (152) vol. xi, 1859, p. 152; J. A. N. S., (168) vol. iv, 1859, pp. 249, 257, pl. xl, f. 138; Obs. Gen. Unio, (170) vol. vii, pp. 67, 75, pl. xl, f. 138.

U. Mecklenbergensis.
J. A. N. S, (242) vol. vi, 1866, pp. 12, 17, pl. v, f. 15; Obs. Gen. Unio, (244) vol. xi, pp. 16, 21, pl. v, f. 15.

U. Medellinus.
T. A. P. S., (27) vol. vi, 1836, p. 39, pl. xii, f. 34; 1838, pp. 127, 147; (43) vol. viii, 1840, p. 201; Obs. Gen. Unio, (29) vol. ii, pp. 39, 127, 147, pl. xii, f. 34; (44) vol. iii, p. 39.

U. mediocris.
J. A. N. S., (242) vol. vi, 1866, p. 24, pl. vii, f. 22; Obs. Gen. Unio, (244) vol. xi, p. 28, pl. vii, f. 22.

U. medius.
P. A. N. S., (192) vol. xiii, 1861, p. 40; J. A. N. S., (203) vol. v, 1861, pp. 78, 83, 92, pl. x, f. 227; Obs. Gen. Unio, (205) vol. viii, pp. 82, 87, 96, pl. x, f. 227.

U. megaptera.
T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

U. melaplata.
T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

U. melleus.
P. A. N. S., (152) vol. xi, 1859, p. 152; J. A. N. S., (168) vol. iv, 1859, pp. 250, 253, pl. xxxviii, f. 129; Obs. Gen. Unio, (170) vol. vii, pp. 68, 71, pl. xxxviii, f. 129.

U. membranaceus.
T. A. P. S., (27) vol. vi, 1838, pp. 148, 154; J. A. N. S., (133) vol. iii, 1857, p. 309; Obs. Gen. Unio, (29) vol. ii, p. 148; (150) vol. vi, p. 29.

U. Menkianus.
T. A. P. S., (27) vol. vi, 1836, p. 76, pl. xix, f. 59; 1838, pp. 127, 147; J. A. N. S., (189) vol. iv, 1860, p. 351; Obs. Gen. Unio, (29) vol. ii, pp. 76, 127, 147, pl. xix, f. 59; (205) vol. viii, p. 33.

Unio Mercerii.

J. A. N. S., (213) vol. v, 1862, p. 209, pl. xxxi, f. 278; Obs. Gen. Unio, (215) vol. ix, p. 31, pl. xxxi, f. 278.

U. Meredithii.

P. A. N. S., (136) vol. x, 1858, p. 40; J. A. N. S., (189) vol. iv, 1860, p. 347; (203) vol. v, 1861, p. 65, pl. vi, f. 214; Obs.Gen, Unio, (205) vol. viii, pp. 29, 69, pl. vi, f. 214.

U. merus.

P. A. P. S., (93) vol. v, 1852, p. 251; T. A. P. S., (79) vol. x, 1852, p. 260, pl. xv, f. 10; J. A. N. S., (168) vol. iv, 1859, p. 254; (189) vol. iv, 1860, p. 349; Obs. Gen. Unio, (83) vol. v, p. 16, pl. xv, f. 10; (170) vol. vii, p. 72; (205) vol. viii, p. 31.

U. metanerer.

T. A. P. S., (9) vol. iii, 1827, p. 273; (12) vol. iii, 1829, pp. 409, 410, 412, 418; (15) vol. iv, 1830, pp. 64, 72; 1831, p. 106; (27) vol. vi, 1838, pp. 123, 147; (43) vol. viii, 1840, pp. 211, 231, 243; (79) vol. x, 1852, pp. 267, 277; J. A. N. S., (148) vol. iv, 1858, p. 66; (213) vol. v, 1862, p. 188; (242) vol. vi, 1866, p. 27; Obs. Gen Unio, (21) vol. i, pp. 15, 23, 24, 26, 32, 74, 82, 116; (29) vol. ii, pp. 123, 147; (44) vol. iii, pp. 49, 69, 81; (83) vol. v, pp. 23, 33; (150) vol. vi, p. 66; (215) vol. ix, p. 10; (244) vol. xi, p. 31.

U. metanevrus.

J. A. N. S., (221) vol. v, 1863, p. 430; Obs. Gen. Unio, (222) vol. x, p. 66.

U. metallieus.

T. A. P. S., (27) vol. vi, 1838, p. 133; Obs. Gen. Unio, (29) vol. ii, p. 133.

U. Mexicanus.

J. A. N. S , (168) vol. iv, 1859, p. 264; Obs. Gen. Unio, (170) vol. vii, p. 72.

U. micans.

P. A. N. S., (123) vol. ix, 1857, p. 85; J. A. N. S., (203) vol. v, 1861, p. 59, pl. iii, f. 207; (242) vol.vi, 1866, p. 19; Obs. Gen. Unio, (205) vol. viii, p. 63, pl. iii, f. 207; (244) vol. xi, p. 23.

U. Michaudiana.

T. A. P. S., (27) vol. vi, 1838, p. 132; Obs. Gen. Unio, (29) vol. ii, p. 132.

U. minor.

T. A. P. S., (54) vol. ix, 1843, pp. 276, 278, pl. xxxix, f. 3; Obs. Gen. Unio, (56) vol. x, pp. 276, 278, pl. xxxix, f. 3.

U. Mississippiensis.

J. A. N. S., (213) vol. 5, 1862, p. 200; (220) vol v, 1863, p. 378; Obs. Gen. Unio, (215) vol. ix, p. 22; (222) vol. x, p. 14.

U. modestus.

T. A. P. S., (27) vol. vi, 1836, p. 23; 1838, pp. 130, 148; J. A. N. S., (189) vol. iv, 1860, p. 345; (242) vol. vi, 1866, p. 20; Obs. Gen. Unio, (29) vol. ii, pp. 23, 130, 148; (205) vol. viii, p. 27; (244) vol. xi, p. 24.

U. modicellus.

P. A. N. S., (156) vol. xi, 1859, p. 171; J. A. N. S , (189) vol. iv, 1860, p. 347, pl. lvii, f. 172; (203) vol. v. 1861, p. 79; (213) vol. v, 1862, p. 207; Obs. Gen. Unio, (205) vol. viii, p. 29, pl. lvii, f. 172; (205) vol.viii, p. 83; (215) vol. ix, p. 29.

Unio modieus.

P. A. N. S., (129) vol. ix, 1857, p. 171; J. A. N S., (159) vol. iv, 1859, p. 204, pl. xxiv, f. 86; Obs. Gen. Unio, (170) vol. vii, p. 22, pl. xxiv, f. 86.

U. modioliformis.

T. A. P. S., (20) vol. v, 1833, p. 89; 1834, p. 97, pl. xiii, f. 40; (27) vol. vi, 1836, p. 63; 1838, pp. 119, 133; (54) vol. ix, 1843, p. 275; (79) vol. x, 1852, pp. 270, 274; J. A. N. S., (148) vol. iv, 1858, p. 60; Obs. Gen. Unio, (21) vol. i, pp. 201, 209, pl. xiii, f 40; (29) vol. ii, pp. 63, 119, 126, 133, 147; (56) vol. iv, p. 275; (83) vol. v, pp. 26, 30; (150) vol. vi, p. 60.

U. monodontus.

T. A. P. S., (27) vol. vi, 1838, pp. 128, 134, 147; (43) vol. viii, 1840, pp. 193, 231; J. A. N. S., (159) vol. iv, 1859, p. 225; (221) vol. v, 1863, p. 422; Obs. Gen. Unio, (29) vol. ii, pp. 128, 134, 147; (44) vol. iii, p. 31; (44) vol. iii, p. 69; (170) vol. vii, p. 43; (222) vol. x, p. 58.

U. Monroensis.

T. A. P. S., (54) vol. ix, 1843, p. 279, pl. xli, f 8; Obs. Gen. Unio, (56) vol. iv, p. 279, pl. xli, f. 8.

U. montanus.

T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

U. Mooresianus.

P. A. N. S., (120) vol. ix, 1857, p. 83; J. A. N. S., (242) vol. vi, 1866, p. 39, pl. xiv, f. 37; Obs. Gen. Unio, (244) vol. xi, p, 43, pl. xiv, f. 37.

U. Mortoni.

T. A. P. S., (27) vol. vi, 1838, p. 123; Obs. Gen. Unio, (29) vol. ii, p. 123.

U. Mosulensis.

J. A. N. S., (242) vol. vi, 1866, pp. 51, 52, pl. xvii, f. 49; Obs. Gen. Unio, (244) vol. xi, pp. 55, 56, pl. xvii, f. 49.

U. Moussonianus.

P. A. P. S., (93) vol. v, 1852, p. 251; T. A. P. S., (79) vol. x, 1852, p. 268; Obs. Gen. Unio, (83) vol. v, p. 24, pl. xviii, f. 22.

U. mucronatus.

T. A. P. S., (12) vol. iii, 1829, p. 419; (27) vol. vi, 1838, p. 133; Obs. Gen. Unio, (21) vol. i, p. 31; (29) vol. ii, p. 133.

U. Mühlfeldianus.

T. A. P. S., (27) vol. vi, 1836, pp. 32, 41, pl. xii, f. 36; 1838, pp. 128, 147; Obs. Gen. Unio, (29) vol. ii, pp. 32, 41, 128, 147, pl. xii, f. 36.

U. multiplicatus.

T. A. P. S., (15) vol. iv, 1830, pp. 65, 70; 1831, p. 106, pl. iv, f. 2; (20) vol. v, 1832, p. 29; (27) vol vi, 1836, p. 56; 1838, pp. 122, 147; (43) vol. viii, 1841, p. 231; P. A. P. S . (66) vol. v, 1851, p. 192; P. A. N. S., (139) vol. x, 1858, p. 111; (141) vol. x, 1858, p. 135; J. A. N. S , (147) vol. iv, 1858, p. 46, pl. v, f. 3; (159) vol. iv, 1859, pp. 191, 222 pl. xxx, f. 105, (221) vol. v, 1863, pp. 417, 428; Obs. Gen. Unio; (21) vol. i, pp. 75, 80, 116, 141. pl. iv. f. 2; (29) vol. ii, pp. 56, 122, 146, 147; (44) vol iii. p. 69; (150) vol, vi, p. 46, pl. v, f. 3; (170) vol. vii, pp. 9, 40, pl. xxx, f. 105; (222) vol. x pp. 59, 64.

Unio multiradiatus.

T. A. P. S., (12) vol. iii, 1829, pp. 409, 411, 420, 434, pl. ix, f. 15; (27) vol. vi, 1838, pp. 127, 147; (43) vol. viii, 1841, p. 231; J. A. N. S., (147) vol. iv, 1858, p. 47, pl. v, f. 17; (189) vol. iv, 1860, p. 368; (203) vol. v, 1861, pp. 66, 76; (213) vol. v, 1862, p. 209; (221) vol. v, 1863, pp. 409, 426, 431; Obs. Gen. Unio, (21) vol. i, pp. 23, 25, 34, 48, pl. ix, f. 15; (29) vol. ii, pp. 127, 147; (44) vol. iii, p. 69; (150) vol. vi, p. 47, pl. v, f. 17; (205) vol. viii, pp. 50, 70, 80; (215) vol. ix, p. 31; (222) vol. x, pp. 45, 62, 67.

U. multistriatus.

T. A. P. S., (15) vol. iv, 1830, p. 91, pl. xii, f. 22; (27) vol. vi., 1838, pp. 122, 148; (55) vol. x, 1845, p. 68; Obs. Gen. Unio, (21) vol. i, p. 101, pl. xii, f. 22; (29) vol. ii, pp. 122, 148; (56) vol. iv, p. 78.

U. mundus.

P. A. N. S., (120) vol. ix, 1857, p. 83; J. A. N. S., (242) vol. vi, 1866, p. 40, pl. xiv, f. 38; Obs. Gen. Unio, (244) vol. xi, p. 44, pl. xiv, f. 38.

U. Murchisonianus.

T. A. P. S., (20) vol. v, 1832, p. 33, pl. iii, f. 6; (27) vol. vi, 1838, p. 122; J. A. N. S., (133) vol. iii, 1857, p. 294; (168) vol. iv, 1859, p. 243; Obs. Gen. Unio, (21) vol. i, p. 145, pl. iii, f. 6; (29) vol. ii, p. 122; (150) vol. vi, p. 14; (170) vol. vii, p. 61.

U. Murrayensis.

J. A. N. S., (258) vol. vi, 1868, p. 303, pl. xlvi, f. 115; Obs. Gen. Unio, (259) vol. xii, p. 62, pl. xlvi, f. 115.

U. musivus.

T. A. P. S., (27) vol. vi, 1838, pp. 134, 151; Obs. Gen. Unio, (29) vol. ii, pp. 134, 151.

U. mutabilis.

P. A. N. S., (152) vol. xi, 1859, p. 152; J. A. N. S., (168) vol. iv, 1859, p. 248, pl. xxxviii, f. 127; Obs. Gen. Unio, (170) vol. vii, p. 66, pl. xxxviii, f. 127.

U. Myersianus.

P. A. N. S., (110) vol. viii, 1856, p. 92; J. A. N. S., (133) vol. iii, 1857, p. 290, pl. xxii, f. 2; (242) vol. vi, 1866, p. 63; Obs. Gen. Unio, (150) vol. vi, p. 10, pl. xxii, f. 2; (244) vol. xi, p. 67.

U. mytiloides.

T. A. P. S., (9) vol. iii, 1827, p. 269; (12) vol. iii, 1829, pp. 409, 412, 418; (15) vol. iv, 1830, p. 85; 1831, pp. 110, 111; (27) vol. vi, 1838, pp. 125, 131, 147; Obs. Gen. Unio, (21) vol. i, pp. 11, 23, 26, 32, 95, 120, 121; (29) vol. ii, pp. 125, 131, 147.

U. Nagpoorensis.

P. A. N. S., (165) vol. xi, 1859, p. 331; J. A. N. S., (168) vol. iv, 1859, p. 270, pl. xlv, f. 150; Obs. Gen. Unio, (170) vol. vii, p. 88, pl. xlv, f. 150.

U. nana.

T. A. P. S., (12) vol. iii, 1829, p. 424, (20) vol. v, 1833, p. 90, (27) vol. vi, 1838, p. 130; Obs. Gen. Unio, (21) vol. i, pp. 38, 202, (29) vol. ii, p. 130.

U. Napeancnsis.

J. A. N. S., (242) vol. vi, 1866, p. 49; Obs. Gen. Unio, (244) vol. xi, p. 53.

Unio Nashvillianus.

T. A. P. S., (20) vol. v, 1834, p. 100, pl. xiv, f. 43; (27) vol. vi, 1834, p. 7; 1836, p. 36; 1838, pp. 128, 147; (55) vol. x, 1845, p. 80; (79) vol. x, 1852, p. 269; J. A. N. S., (148) vol. iv, 1858, p 80; (203) vol. v, 1861, p. 67; (213) vol. v, 1862, p. 200; (221) vol. v, 1863, p. 439; (274) vol. viii, 1874, p. 68, pl. xxi, f. 1; Obs. Gen. Unio, (21) vol. i, p. 212, pl. xiv, f. 43; (29) vol. ii, pp. 7, 36, 128, 147; (56) vol. iv, p. 80; (83) vol. v, p. 25; (150) vol. vi, p. 80; (205) vol. viii, p. 71; (215) vol. ix, p. 22; (222) vol. x, p. 75; (275) vol. xiii, p. 72, pl. xxi, f. 1.

U. nasutus.

T. A. P. S., (12) vol. iii, 1829, pp. 406, 409, 411, 417, 418, 423; (15) vol. iv, 1831, p. 115; (20) vol. v, 1832, pp. 25, 60; 1833, p. 89; (27) vol. vi, 1834, pp. 5, 8; 1836, pp. 29, 53, 54; 1838, pp. 132, 133, 147; (55) vol. x, 1845, p. 78; (79) vol. x, 1852, pp. 257, 278; J. A. N. S., (148) vol. iv, 1858, p. 92; (189) vol. iv, 1860, p. 357; (203) vol. v, 1861, p. 57; (221) vol. v, 1863, pp. 403, 409, 445, 456; (242) vol. v, 1866, p. 12, pl. iii, f. 9; (274) vol. viii, 1874, p. 68, pl. xxi, f. 2; Obs. Gen. Unio, (21) vol. i, pp. 20, 23, 24, 31, 32, 37, 125, 137, 172, 201; (29) vol. ii, pp. 5, 8, 29, 53, 54, 132, 133, 147; (56) vol. iv, p. 78; (83) vol. v, pp. 13, 34; (150) vol. vi, p. 92; (205) vol. viii, pp. 39, 61; (222) vol. x, pp. 39, 45, 81, 92; (244) vol. xi, p. 16, pl. iii, f. 9; (275) vol. xiii, p. 72, pl. xxi, f. 2.

U. Natalensis.

J. A. N. S., (242) vol. vi, 1866, p. 59, pl. xx, f. 57; Obs. Gen. Unio, (244) vol. xi, p. 63, pl. xx, f. 57.

U. naviculoides.

P. A. N. S., (129) vol. ix, 1857, p. 170; J. A. N. S., (148) vol. iv, 1858, p. 94, pl. xx, f. 74; (159) vol. iv, 1859, pp. 212, 216; (242) vol. vi, 1866, p. 16; Obs. Gen. Unio., (150) vol. vi, p. 94, pl. xx, f. 74; (170) vol. vii, pp. 30, 34; (244) vol. xi, p. 20.

U. naviformis.

T. A. P. S., (12) vol. iii, 1829, pp, 417, 423; (20) vol. v, 1833, p. 89; (27) vol. vi, 1838, p. 124; Obs. Gen. Unio, (21) vol. i, pp. 31, 37, 201; (29) vol. ii, p. 124.

U. navigioliformis.

P. A. N. S., (152) vol. xi, 1859, p. 152; J. A. N. S., (168) vol. iv, 1859, p. 248, pl. xxxvii, f. 124; Obs. Gen. Unio, (170) vol. vii, p. 63, pl. xxxvii, f. 124.

U. nebulosus.

T. A. P. S., (27) vol. vi, 1838, p. 133; Obs. Gen. Unio, (29) vol. ii, p. 133.

U. negatus.

P. A. N. S. (196) vol. xiii, 1861, p. 59; J. A. N. S. (203) vol. v, 1861, p. 76, pl. ix, f. 225; Obs. Gen. Unio, (205) vol. viii, p. 80, pl. ix, f. 225.

U. neglectus.

T. A. P. S., (54) vol. ix, 1843, p. 280, pl. xlii, f. 10; Obs. Gen. Unio, (56) vol. iv, p. 280, pl. xlii, f. 10.

U. Neislerii.

P. A. N. S. (143) vol. x, 1858, p. 165; J. A. N. S., (159) vol. iv, 1859, p. 212, pl. xxvi, f. 93; Obs. Gen. Unio, (170) vol. vii, p. 30, pl. xxvi, f. 93.

Unio nervosa.

T. A. P. S. (27) vol. vi, 1838, pp. 124, 144; Obs. Gen. Unio, (29) vol. ii, pp. 124, 144.

U. Neusensis.

P. A. N. S., (136) vol. x, 1858, p. 41; J. A. N. S., (159) vol. iv, 1859, p. 206; (189) vol. iv, 1860, p. 331; (203) vol. v, 1861, p. 60, pl. iv, f. 208; Obs. Gen. Unio, (170) vol. vii, p. 24; (205) vol. viii, pp. 12, 64, pl. iv, f. 208.

U. Newcombianus.

P. A. N. S., (112) vol. viii, 1856, p. 103; J. A. N. S., (133) vol. iii, 1857, p. 312, pl. xxx, f. 27; Obs. Gen. Unio, (150) vol. vi, p. 32, pl. xxx, f. 27.

U. nexus.

T. A. P. S. (27) vol. vi, 1838, p. 124; Obs. Gen. Unio, (29) vol. ii, p. 124.

U. Nicaraguensis.

J. A. N. S. (257) vol. vi, 1868, p. 296, pl. xliii, f. 107; Obs. Gen. Unio, (259) vol. xii, p. 56, pl. xliii, f. 107.

U. Nicklinianus.

T. A. P. S., (20) vol. v, 1832, p. 28, pl. i, f. 1; (27) vol. vi, 1838, pp. 122, 148; (43) vol. viii, 1840, p. 208; J. A. N. S., (133) vol. iii, 1857, p. 295; (189) vol. iv, 1860, p. 368; Obs. Gen. Unio, (21) vol. i, p. 140, pl. 1, f. 1; (29) vol. ii, pp. 122, 148; (44) vol. iii, p. 46; (150) vol. vi, p. 15; (205) vol. viii, p. 50.

U. nigellus.

P. A. P. S., (93) vol. v, 1852, p. 251; T. A. P. S., (79) vol. x, 1852, p. 283, pl. xxiv, f. 42; J. A. N. S., (159) vol. iv, 1859, pp. 196, 201; (221) vol. v, 1863. p. 409; Obs. Gen. Unio, (83) vol. v, p. 39, pl. xxiv, f. 42; (170) vol. vii, pp. 14, 19; (222) vol. x, p. 45.

U. niger.

T. A. P. S., (27) vol. vi, 1838, p. 125; Obs. Gen. Unio, (29) vol. ii, p. 125.

U. nigerrimus.

P. A. P. S., (93) vol. v, 1852, p. 251; T. A. P. S., (79) vol. x, 1852, p. 268, pl. xviii, f. 23; Obs. Gen. Unio, (83) vol. v, p. 24, pl. xviii, f. 23.

U. nigrinus.

P. A. P. S., (93) vol. v, 1852, p. 252; T. A. P. S., (79) vol. x, 1852, p. 284, pl. xxiv, f. 44; Obs. Gen. Unio, (83) vol. v, p. 40, pl. xxiv, f. 44.

U. Niloticus.

T. A. P. S., (27) vol. vi, 1838, pp. 129, 145; Obs. Gen. Unio, (29) vol. ii, pp. 129, 145.

U. nitens.

P. A. P. S., (35) vol. i, 1840, p. 288; T. A. P. S., (43) vol. viii, 1840, p. 205, pl. xii, f. 19; J. A. N. S., (148) vol. iv, 1858, p. 83; (203) vol. v, 1861, p. 91; (221) vol. v, 1863, p. 406; Obs. Gen. Unio, (44) vol. iii, p. 43, pl. xii, f. 19; (150) vol. vi, p. 83; (205) vol. viii, p. 95; (222) vol. x, p. 42.

U. nitidens.

T. A. P. S., (27) vol. vi, 1838, pp. 134, 151; Obs. Gen. Unio, (29) vol. ii, pp. 134, 151.

U. nocturnus.

P. A. N. S., (176) vol. xii, 1860, p. 91; J. A. N. S., (220) vol. v, 1863, p. 380, pl. xlii, f. 288; Obs. Gen. Unio, (222) vol. x, p. 16, pl. xliv, f. 288.

Unio nodosus.

T. A. P. S., (12) vol. iii, 1829, p. 418; (27) vol. vi, 1838, p. 123; Obs. Gen. Unio, (21) vol. i, p. 32; (29) vol. ii, p. 123.

U. nodulata.

T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

U. nodulosus.

T. A. P. S., (12) vol. iii, 1829, p. 424; (20) vol. v, 1833, p. 91; (27) vol. vi, 1838, pp. 123, 132; Obs. Gen. Unio, (21) vol i, pp. 38, 203; (29) vol. ii, pp. 123, 132.

U. Northamptonensis.

P. A. N. S., (200) vol. xiii, 1861, p. 392; J. A. N. S., (213) vol. v, 1862, p. 190, pl. xxv, f. 260; Obs. Gen. Unio, (215) vol. ix, p. 12, pl. xxv, f. 260.

U. notatus.

T. A. P. S., (27) vol. vi, 1836, p. 28; 1838, pp. 127, 147; Obs. Gen. Unio, (29) vol. ii, pp. 28, 127, 147.

U. Novæ Hollandiæ.

T. A. P. S., (27) vol. vi, 1838, pp. 124, 148; Obs. Gen. Unio, (29) vol. ii, pp. 124, 148.

U. Novi-Eboraci.

T. A. P. S., (27) vol. vi, 1838, pp. 127, 147; J. A. N. S. (147) vol. iv, 1858, p. 47, pl. v, f. 14; (189) vol. iv, 1860, pp. 343, 350; (221) vol. v. 1863, p. 419; Obs. Gen Unio, (29) vol. ii, pp. 127, 147; (150) vol. vi, p. 47, pl. v, f. 14; (205) vol. viii, pp. 25, 32; (222) vol. x. p. 55.

U. nubilus.

J. A. N. S., (257) vol. vi, 1868, p. 298, pl. xliv, f. 110; Obs. Gen. Unio, (259) vol. xii, p. 59, pl. xliv, f. 110.

U. nucleopsis.

T. A. P. S., (79) vol. x, 1852, p. 281; J. A. N. S., (159) vol. iv, 1859, p. 220; (203) vol. v, 1861, p. 79; Obs. Gen. Unio, (83) vol. v, p. 37; (170) vol. vii, p. 38; (205) vol. viii, p. 83.

U. nucleus.

P. A. N. S., (110) vol. viii, 1856, p. 94; J. A. N. S., (133) vol. iii, 1857, pp. 297, 300, 306, pl. xxviii, f. 21; Obs. Gen. Unio, (150) vol. vi, pp. 17, 20, 26, pl. xxviii, f. 21.

U. Nuttallianus.

P. A. N. S., (112) vol. viii, 1856, p. 103; J. A. N. S., (133) vol. iii, 1857, pp. 310, 311, pl. xxx, f. 25; Obs. Gen. Unio, (150) vol. vi. pp. 30, 31.

U. nux.

P. A. P. S., (93) vol. v, 1852, p. 252; T. A. P. S., (79) vol. x, 1852, p. 283, pl xxiv, f. 43; J. A. N. S., (189) vol. iv, 1860, p. 344; (203) vol. v, 1861, pp. 58, 90, 101; (221) vol. v, 1863, p. 439; Obs. Gen. Unio, (83) vol. v, p. 39, pl. xxiv, f. 43; (205) vol. viii, p. 26, 62, 94, 105; (222) vol. x, p. 75.

U. Nyassaensis.

J. A. N. S., (242) vol. vi, 1866, pp. 33, 35, pl. xii, f. 32; Obs. Gen. Unio, (244) vol. xi, pp. 37, 39, pl. xii, f. 32.

Unio obesus.

T. A. P. S., (15) vol. iv, 1830, p. 96, pl. xiii, f. 26; 1831, p. 108; (20) vol. v, 1832, p. 39; 1834, p. 102; (27) vol. vi, 1838, pp. 129, 147; J. A. N. S., (148) vol. iv, 1858, p. 75; (221) vol. v, 1863, p. 404; (242) vol. vi, 1866, p. 22; Obs. Gen. Unio, (21) vol. i, pp. 106, 151, 214, pl. xiii, f. 26; (29) vol. ii, pp. 129, 147; (150) vol. vi, p. 75; (222) vol. x, p. 40; (244) vol. x, p. 26.

U. obfuscus.

P. A. N. S., (129) vol. ix, 1857, p. 172; J. A. N. S., (159) vol. iv, 1859, p. 197, pl. xxii, f. 80; Obs. Gen. Unio, (170) vol. vii, p. 15, pl. xxii, f. 80.

U. oblatus.

J. A. N. S., (242) vol. v, 1866, p. 13, pl. iv, f. 10; Obs. Gen. Unio, (244) vol. xi, p. 17, pl iv, f. 10.

U. obliquata.

T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

U. obliquus.

T. A. P. S., (12) vol. iii, 1829, p. 422; (20) vol. v, 1833, p. 88; (27) vol. vi, 1838, pp. 125, 147; (43) vol. viii, 1840, p. 212; (55) vol. x, 1845, p. 71; P. A. N. S., (66) vol. v, 1851, p. 192; J. A. N. S., (168) vol. iv, 1859, p. 271; (221) vol. v, 1863, p. 441; Obs. Gen. Unio, (21) vol. i, pp. 36, 200; (29) vol. ii, pp. 125, 147; (44) vol. iii, p. 50; (56) vol. iv, p. 71; (170) vol. vii, p. 89; (222) vol. x, p. 77.

U. oblongus.

J. A. N. S., (273) vol. viii, 1874, p. 52, pl. viii, f. 50; Obs. Gen. Unio, (225) vol. xiii, p. 56, pl. xviii, f. 50.

U. obnubilus.

P. A. N. S., (129) vol. ix, 1857, p. 169; J. A. N. S., (148) vol. iv, 1858, pp. 84, 86, pl. xvii, f. 64; Obs. Gen. Unio, (150) vol. vi, pp. 84, 86, pl. xvii, f. 64.

U. obovalis.

T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

U. obovatus.

T. A. P. S., (20) vol. v, 1833, p. 73; Obs. Gen. Unio, (21) vol. i, p. 185.

U. obscurus.

T. A. P. S., (27) vol. vi, 1834, p. 7, pl. iii, f. 7, 1838, pp. 128, 147; (43) vol. viii, 1840, p. 206; (55) vol. x, 1845, p. 77; (79) vol. x, 1852, p. 272; J. A. N. S., (221) vol. v, 1863, p. 442; Obs. Gen. Unio, (29) vol. ii, pp. 7, 128, 147, pl. iii, f. 7; (44) vol. iii, p. 44; (56) vol. iv, p. 77; (83) vol. v, p. 28; (222) vol. x, p. 78.

U. obtusus.

T. A. P. S., (27) vol. vi, 1838, pp. 130, 134, 151; (43) vol. viii, 1840, p. 201, pl. xi. f. 13; P. A. P. S., (35) vol. i, 1840, p. 287; J. A. N. S., (147) vol. iv, 1858, p. 46, pl. v, f. 1; (168) vol. iv, 1859, p. 267; (221) vol. v, 1863, p. 406; Obs. Gen. Unio, (29) vol. ii, pp. 130, 134, 151; (44) vol. iii, p. 39, pl. xi, f. 13; (150) vol. vi, p. 46, pl. v, f. 1; (170) vol. vii, p. 85; (222) vol. x, p. 42.

U. obuncus.

J. A. N. S., (273) vol. viii, 1874, p. 9, pl. ii, f. 5; Obs. Gen. Unio, (275) vol. xiii, p. 13, pl. ii, f. 5.

Unio occatus.

P. A. N. S., (187) vol. xii, 1860, p. 307; J. A. N. S., (220) vol. v, 1863, p. 398, pl. l, f. 304; Obs. Gen. Unio, (222) vol. x, p. 34, pl. l, f. 304.

U. occidens.

T. A. P. S , (12) vol. iii, 1829, pp. 409, 411, 420, 435, pl. x, f. 16; (15) vol. iv, 1831, p. 119; (20) vol. v, 1832, pp. 26, 42, 89; (27) vol. vi, 1836, p. 49; 1838, pp. 104, 125, 126, 147; (43) vol. viii, 1840, p. 207; 1841, p. 231; (79) vol. x. 1852, p. 266; P. A. N. S., (135) vol. x, 1858, pp. 13, 14; J. A. N. S., (147) vol. iv, 1858, p. 47, pl. v, f. 13; (221) vol. v, 1863, p. 418; (242) vol. vi, 1866, p. 27; Obs. Gen. Unio, (21) vol. i, pp. 23, 25, 34, 49, 129, 138, 154, 201, pl. x, f. 16; (29) vol. ii, pp. 49, 104, 125, 126, 147; (44) vol. iii, pp. 44, 69; (83) vol. v, p. 22; (150) vol. vi, p. 47, pl. v, f. 13; (222) vol. x, p. 54; (244) vol. xi, p. 31.

U. occultus.

T. A. P. S., (54) vol. ix, 1843, p. 279, pl. xli, f. 7; (79) vol. x, 1852, pp. 273, 283, 284; Obs. Gen. Unio, (56) vol. iv, p. 279, pl. xli, f. 7; (83) vol. v, pp. 29, 39, 40.

U. ochraceus.

T. A. P. S., (12) vol. iii, 1829, pp. 411, 416, 422; (20) vol. v, 1833, p. 88; (27) vol. vi, 1836, pp. 49, 54, 57, 71; 1838, pp. 126, 147; (43) vol. viii, 1840, pp. 216, 238; J. A. N. S., (221) vol. v, 1863, pp. 438, 455; (242) vol. vi, 1866, p. 59; Obs. Gen. Unio, (21) vol. i, pp. 25, 30, 36, 200; (29) vol. ii, pp. 49, 51, 54, 57, 71, 126; (44) vol. iii, pp. 54, 76; (222) vol. x, pp. 74, 91; (244) vol. xi, p. 63.

U. Ocmulgéensis.

P. A. N. S., (192) vol. xiii, 1861, p. 38; J. A. N. S., (203) vol. v, 1861, p. 95, pl. xiv, f. 243; Obs. Gen. Unio, (205) vol. viii, p. 99, pl. xiv, f. 243.

U. olivarius.

T. A. P. S., (15) vol. iv, 1831, p. 108, pl. xvi, f. 38 (27) vol. vi, 1838, pp. 126, 128, 144, 145; J. A. N. S., (133) vol. iii, 1857, p. 311; Obs. Gen. Unio, (21) vol. i, p. 118, pl. xvi, f. 38; (29) vol. ii, pp. 126, 128, 144, 145; (150) vol. vi, p. 31.

U. opacus.

P. A. N. S., (129) vol. ix, 1857, p. 169; J. A. N. S., (148) vol. v, 1858, pp. 85, 86, pl. xviii, f. 66; Obs. Gen. Unio, (150) vol. vi, pp. 85, 86, pl. xviii, f. 66.

U. orbicularis.

T. A. P. S., (12) vol. iii, 1829, p. 418; Obs. Gen. Unio, (21) vol. i, p. 32.

U. orbiculatus.

T. A. P. S., (12) vol. iii, 1829, p. 418; (27) vol. vi, 1836, p. 55; 1838, pp. 127, 147; (43) vol. viii, 1841, p. 231; J. A. N. S. (148) vol. iv, 1858, p. 78; (213) vol. v, 1862, p. 189; (221) vol. v, 1863, p. 430; Obs. Gen. Unio, (21) vol. i, p. 32; (29) vol. ii, pp. 55, 127; (44) vol. iii, p. 69; (150) vol. vi, p. 78; (215) vol. ix, p. 11; (222) vol. x, p. 66.

U. Oregonensis.

P. A. P. S., (93) vol. v, 1852, p. 252; T. A. P. S., (79) vol. x, 1852, p. 275 pl. xxii, f. 33; J. A. N. S., (168) vol. iv, 1859, p. 256; Obs. Gen. Unio, (83) vol. v, p. 31, pl. xxii, f. 33; (170) vol. vii, p. 74.

Unio oriens.

T. A. P. S., (15) vol. iv, 1830, pp. 68, 73, pl. vi, f. 5; 1831, p. 107; (20) vol. v, 1832, p. 37; (27) vol. vi, 1838, pp. 128, 131, 142; J. A. N. S., (221) vol. v, 1863, p. 440; Obs. Gen. Unio, (21) vol. i, pp. 78, 83, 117, 149, pl. vi, f. 5; (29) vol. ii, pp. 128, 131, 142; (222) vol. x, p. 76.

U. orientalis.

T. A. P. S., (27) vol. vi, 1838, pp. 134, 151; (43) vol. viii, 1840, p. 221, pl. xviii, f. 38; P. A. P. S., (35) vol. i, 1846, p. 285; Obs. Gen. Unio, (29) vol. ii, pp. 134, 151; (44) vol. iii, p. 59, pl. xviii, f. 38.

U. ornatus.

P. A. N. S., (192) vol. xiii, 1861, p. 41; J. A. N. S., (189) vol. iv, 1860, p. 353; (203) vol. v, 1861, p. 85, pl. xi, f. 234; Obs. Gen. Unio, (205) vol. viii, pp. 35, 89, pl. xi, f. 234.

U. Orontesensis.

J. A. N. S., (242) vol. vi, 1866, pp. 53, 56, pl. xviii, f. 50; Obs. Gen. Unio, (244) vol. xi, pp. 57, 60, pl. xviii, f. 50.

U. Orphœnsis.

J. A. N. S., (257) vol. vi, 1868, p. 250, pl. xxix, f. 64; Obs. Gen. Unio, (259) vol. xii, p. 10, pl. xxix, f. 64.

U. Ortonii.

J. A. N. S., (258) vol. vi, 1868, p. 321, pl. lii, f. 134; Obs. Gen. Unio, (259) vol. xii, p. 81, pl. lii, f. 134.

U. Othealoogensis.

P. A. N. S., (119) vol. ix, 1857, p. 32; J. A. N. S., (148) vol. iv, 1858, pp. 74, 91, pl. xiv, f. 54; (274) vol. viii, 1874, p. 69, pl. xxi, f. 11; Obs. Gen. Unio, (150) vol. vi, pp. 74, 91, pl. xiv, f. 54; (275) vol. xiii, p. 73, pl. xxi, f. 11.

U. ovalis.

T. A. P. S., (27) vol. vi, 1838, pp. 132, 145; (54) vol. ix, 1843, p. 276; Obs. Gen. Unio, (29) vol. ii, pp. 132, 145; (56) vol. iv, p. 276.

U. ovatus.

T. A. P. S., (9) vol. iii, 1827, p. 268; (12) vol. iii, 1829, pp. 409, 411, 417, 423, 436; (15) vol. iv, 1831, p. 119; (20) vol. v, 1833, pp. 89, 91; (27) vol. vi, 1836, p. 55, 1838, pp. 103, 125, 126, 132, 144, 147; (43) vol. viii, 1841, p. 231; (79) vol. x, 1852, p. 266; J. A. N. S., (147) vol. iv, 1858, p. 47, pl. v, f. 15; (148) vol. iv, 1858, p. 72; (168) vol. iv, 1859, p. 268; (221) vol. v, 1863, p. 435; Obs. Gen. Unio, (21) vol. i, pp. 10, 23, 25, 31, 37, 50, 129, 201, 203; (29) vol. ii, pp. 55, 103, 125, 126, 132, 144, 147; (44) vol. iii, p. 69; (83) vol. v, p. 22; (150) vol. vi, pp. 47, 72, pl. v, f. 15; (170) vol. vii, p. 86; (222) vol. x, p. 71.

U. oviformis.

T. A. P. S., (27) vol. vi, 1838, pp. 134, 151; (43) vol. viii, 1841, pp. 238, 242; J. A. N. S., (203) vol. v, 1861, p. 86; Obs. Gen. Unio, (29) vol. ii, pp. 134, 151; (44) vol. iii, pp. 76, 80; (205) vol. viii, p. 90.

Unio paliatus.

T. A. P. S., (27) vol. vi, 1838, pp. 125, 144. Obs. Gen. Unio, (29) vol. ii, pp. 125, 144.

U. pachostea.

T. A. P. S., (27) vol. vi, 1838, p. 130; Obs. Gen. Unio, (29) vol. ii, p. 130.

U. pallens.

T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

U. pallescens.

T. A. P. S., (55) vol. x, 1845, p. 79; Obs. Gen. Unio, (56) vol. iv, p. 79; (205) vol. viii, p. 74, pl. vii, f. 20; J. A. N. S., (203) vol. v, 1861, p. 70.

U. palliatus.

T. A. P. S., (27) vol. vi, 1838, p. 147; Obs. Gen. Unio, (29) vol. ii, p. 147.

U. pallida.

T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

U. pallidofulvus.

T. A. N. S., (196) vol. xiii, 1861, p. 60; J. A. N. S., (203) vol. v, 1861, pp. 83, 85, pl. xi, f. 232; Obs. Gen. Unio, (205) vol. viii, pp. 87, 89, pl. xi, f. 232.

U. Paphos.

T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

U. parallelopipedon.

T. A. P. S., (20) vol. v, 1833, p. 60, pl. viii, f. 20; (27) vol. vi, 1838, pp. 132, 148; J. A. N. S., (168) vol. iv, 1869, p. 245; (220) vol. v, 1863, pp. 377, 378, 387; Obs. Gen. Unio, (21) vol. i, p. 172, pl. viii, f. 20; (29) vol. ii, pp. 132, 148; (170) vol. vii, p. 63; (222) vol. x, pp. 13, 14, 23.

U. Paramattensis.

J. A. N. S., (242) vol. vi, 1866, p. 60, pl. xx, f. 59; Obs. Gen. Unio, (244) vol. xi, p. 64, pl. xx, f. 59.

U. Paranensis.

T. A. P. S., (20) vol. v, 1834, p. 99, pl. xiv, f. 42; (27) vol. vi, 1838, pp. 131, 143, 148; J. A. N. S., (133) vol. iii, 1857, pp. 289, 308, 309; (168) vol. iv, 1859, p. 265; (220) vol. v, 1863, pp. 377, 379, 381, 384, 385, 386; Obs. Gen. Unio, (21) vol. i, p. 211, pl. xiv, f. 42; (29) vol. ii, pp. 131, 143, 148; (150) vol. vi, pp. 9, 28; (170) vol. vii, p. 83; (222) vol. x, pp. 13, 15, 17, 20, 21, 32.

U. Paraguayensis.

J. A. N. S., (257) vol. vi, 1868, p. 271, pl. xxxv, f. 85; Obs. Gen. Unio, (259) vol. xii, f. 31, pl. xxxv, f. 85.

U. parcus.

J. A. N. S., (257) vol. vi, 1868, p. 262, pl. xxxiii, ff. 33, 77; Obs. Gen. Unio, (259) vol. xii, p. 22, pl. xxxiii, f. 77.

U. Parvensis.

J. A. N. S., (257) vol. vi, 1868, p. 302, pl. xlv, f. 114; Obs. Gen. Unio, (259) vol. xii, p. 62, pl. xlv, f. 114.

U. parvulus.

P. A. N. S., (186) vol. xii, 1860, p. 307; J. A. N. S., (242) vol. vi, 1866, p. 45, pl. xvi, f. 43; Obs. Gen. Unio, (244) vol. xi, p. 49, pl. xvi, f. 43.

Unio parvus.

T. A. P. S., (12) vol. iii, 1829, pp. 409, 412, 413, 419, 420. 440; (15) vol. iv, 1830, p. 87; (20) vol. v, 1834, p. 101; (27) vol. vi, 1836, p. 55; 1838, pp. 129, 147; (43) vol. viii, 1841, pp. 231, 214, 247; (51) vol. ix, 1843, p. 277; (79) vol. x, 1852, pp. 262, 269; J. A. N. S., (133) vol. iii, 1857. p. 300; (159) vol. iv, 1859, p. 221, pl. xxix, f. 102, 102*a*; (189) vol. iv, 1860, pp. 360, 362; (203) vol. v, 1861, p. 97; (213) vol. v, 1862, p. 205; (221) vol. v, 1863, pp. 403, 405, 440, 444; (242) vol. vi, 1866, pp. 20, 27, 49, 50; (274) vol. viii, 1874, p. 68 pl. xxi, f. 3; Obs. Gen. Unio, (21) vol. i, pp. 23, 26, 27, 33, 34, 54, 97, 213; (29) vol. ii, pp. 55, 129; (44) vol. iii, pp. 52, 69, 85; (56) vol. ix, p. 277; (83) vol. v, pp. 18, 25; (150) vol. vi, p. 20; (170) vol. vii, p. 39, pl. xxix, f. 102, 102*a*; (205) vol. viii, pp. 42, 44, 101; (215) vol. ix, p. 27; (222) vol. x, pp. 39, 41, 76, 80; (244) vol. xi, pp. 24, 31, 53, 54; (275) vol. xiii, p. 72, pl. xxi, f. 3.

U. Patagonicus.

T. A. P. S., (27) vol. vi, 1838, pp. 133, 148; Obs. Gen. Unio, (29) vol. ii, pp. 133, 148.

U. patelloides.

P. A. N. S., (175) vol. xii, 1860, p. 89; J. A. N. S., (220) vol. v, 1863, p. 383, pl. xliii, f. 291; Obs. Gen. Unio, (222) vol. x, p. 19, pl. xliii, f. 291.

U. pattinoides.

J. A. N. S., (273) vol. viii, 1874. p. 16, pl. iv, f. 12; Obs. Gen. Unio, (275) vol. xiii, p. 20, pl. iv, f. 12.

U. patulus.

T. A. P. S., (12) vol. iii, 1829, pp. 409, 412, 421, 441, pl. xii, f. 20; (15) vol. iv, 1830, p. 93; (20) vol. v, 1833, pp. 33, 74; (27) vol. vi, 1838, pp. 126, 147; (43) vol. viii, 1841, p. 231; J. A. N. S., (159) vol. iv, 1859, p. 210; (189) vol. iv, 1860, p. 352; (221) vol. v, 1863, p. 422; Obs. Gen. Unio, (21) vol. i, pp. 23, 26, 35, 55, 103, 145, 186, pl. xii, f. 20; (29) vol. ii, p. 126; (44) vol. iii, p. 69; (170) vol. vii, p. 28; (205) vol. viii, p. 34; (222) vol. x, p. 58.

U. pauciplicatus.

J. A. N. S., (273) vol. viii, 1874, p. 29, pl. ix, f.; Obs. Gen. Unio, (275) vol. xiii, p. 33, pl. ix, f. 26.

U. paulus.

P. A. P. S., (35) vol. i, 1840, p. 287; T. A. P. S., (43) vol. viii, 1840, p. 213, pl. xv, f. 29; J. A. N. S., (159) vol. iv, 1859, pp. 221, 222; (189) vol. iv, 1860, p. 344; (221) vol. v, 1863, pp. 402, 405; (242) vol. vi, 1866, p. 50; Obs. Gen. Unio; (44) vol. iii, p. 51, pl. xv, f. 29; (170) vol. vii, pp. 39, 40; (205) vol. viii, p. 26; (222) vol. x, pp. 38, 41; (244) vol. xi, p. 54.

U. pauperculus.

P. A. N. S., (192) vol. xiii, 1861, p. 39; J. A. N. S., (203) vol. v, 1861, p. 99, pl. xv, f. 247; Obs. Gen. Unio, (205) vol. viii, p. 103, pl. xv, f. 247.

U. Pazii.

J. A. N. S., (242) vol. vi. 1866, p. 61, pl. xxi, f. 60; Obs. Gen. Unio, (244) vol. xi. p. 65, pl. xxi. f. 60.

Unio Pealei.

J. A. N. S., (273) vol. viii, 1874, p. 26, pl. viii, f. 23; Obs. Gen. Unio, (275) vol. xiii, p. 30, pl. viii, f. 23.

U. pectorosus.

T. A. P. S., (27) vol. vi, 1838, pp. 126, 147; Obs. Gen. Unio, (29) vol. ii, pp. 126, 147.

U. peculiaris.

J. A. N. S., (257) vol. vi, 1868, p. 265, pl. xxxiv, f. 80; Obs. Gen. Unio, (259) vol. xii, p. 25, pl. xxxiv, f. 80.

U. pellucidus.

T. A. P. S., (55) vol. x, 1845, p. 70, pl. ii, f. 6; Obs. Gen. Unio, (56) vol. iv, p. 70, pl. ii, f. 6.

U. penicillatus.

P. A. N. S., (129) vol. ix, 1857, p. 171; J. A. N. S., (147) vol. iv, 1858, p. 47, pl. v, f. 5; (159) vol. iv, 1859, p. 203, pl. xxiii, f. 85; (221) vol. v, 1862, p. 411; (242) vol. vi, 1866, p. 46; Obs. Gen. Unio, (150) vol. vi, p. 47, pl v, f. 5; (170) vol. vii, p. 21, pl. xxiii, f. 85; (222) vol. x, p. 47; (244) vol. xi, p. 50.

U. penitus.

T. A. P. S., (27) vol. vi, 1838, pp. 124, 147; J. A. N. S., (159) vol. iv, 1859, p. 219; (221) vol. v, 1863, pp. 440, 444; Obs. Gen. Unio, (29) vol. ii, pp. 124, 147; (170) vol. vii, p. 37; (222) vol. x, pp. 76, 80.

U. peraeformis.

P. A. N. S., (176) vol. xii, 1860, p. 90; J. A. N. S., (220) vol. v, 1863, p. 384, pl. xliii, f. 292; Obs. Gen. Unio, (222) vol. x, p. 20, pl. xliii, f. 292.

U. percoarctatus.

P. A. N. S., (123) vol. ix, 1857, p. 85; J. A. N. S., (203) vol. v, 1861, pp. 59, 88, pl. iii, f. 206; (213) vol. v, 1862, p. 201; Obs. Gen. Unio, (205) vol. viii, pp. 62, 63, 92, pl. iii, f. 206; (215) vol. ix, p. 23.

U. perdix.

T. A. P. S., (20) vol. v, 1833, pp. 72, 74, pl. xi, f. 31; (27) vol. vi, 1838, pp. 126, 147; (43) vol. viii, 1840, p. 198; Obs. Gen. Unio, (21) vol. i, pp. 184, 186, pl. xi, f. 31; (29) vol. ii, pp. 126, 147; (44) vol. iii, p. 36.

U. peregrinus.

T. A. P. S., (27) vol. vi, 1838, pp. 134, 151; Obs. Gen. Unio, (29) vol. ii, pp. 134, 151.

U. perlatus.

J. A. N. S., (242) vol. vi, 1866, p. 15, pl. iv, f. 13; Obs. Gen. Unio, (244) vol. xi, p. 19, pl. iv, f. 13.

U. perlucens.

J. A. N. S., (242) vol. vi, 1866, p. 18, pl. v, f. 16; Obs. Gen. Unio, (244) vol. xi, p. 22, pl. v, f. 16.

U. permiscens.

P. A. N. S., (151) vol. xi, 1859, p. 112; J. A. N. S., (203) vol. v, 1861, pp. 76, 102, pl. xvii, f. 251; Obs. Gen Unio, (205) vol. viii, pp. 80, 106, pl. xvii, f. 251.

U. pernodosus.

T. A. P. S., (55) vol. x, 1845, p. 71, pl. iii, f. 8; Obs. Gen. Unio, (56) vol. iv, p. 71, pl. iii, f. 8.

U. peroralis.

T. A. P. S., (27) vol vi, 1838, pp. 127, 147; Obs. Gen. Unio, (29) vol. ii, pp. 127, 147.

Unio perovatus.

T. A. P. S., (27) vol. vi, 1838, pp. 127, 147; J. A. N. S., (203) vol. v, 1861, p. 90; Obs. Gen. Unio, (29) vol. ii, pp. 127, 147; (205) vol. viii, p. 94.

U. perpastus.

P. A. N. S., (196) vol. xiii, 1861, p. 60; J. A. N. S., (203) vol. v, 1861, p. 69, pl. vii, f. 219; Obs. Gen. Unio, (205) vol. viii, p. 73, pl. vii, f. 219.

U. perpictus.

P. A. N. S., (185) vol. xii, 1860, p. 306; J. A. N. S., (189) vol. iv, 1860, p. 350, pl. lviii, f. 175; Obs. Gen. Unio, (205) vol. viii, p. 32, pl. lviii, f. 175.

U. perplexus.

T. A. P. S., (15) vol. iv, 1831, p. 112, pl. xvii, f. 42; (20) vol. v, 1832, p. 32; (27) vol. vi, 1836, p. 51, 1837, p. 95; (27) vol. vi, 1838, pp. 124, 144, 147; (43) vol. viii, 1841, pp. 194, 231; J. A. N. S., (147) vol. iv, 1858, p. 48, pl. v, f. 21; (148) vol. iv, 1858, p. 74; (203) vol. v, 1861, p. 64; (213) vol. v, 1862, p. 193; (221) vol. v, 1863, pp. 420, 426, 442, 444; Obs. Gen. Unio, (21) vol. i, pp. 122, 144, pl. xvii, f. 42; (29) vol. ii, pp. 51, 95, 124, 144, 147; (44) vol. iii, pp. 32, 69; (150) vol. vi, pp. 48, 74, pl. v, f. 21; (205) vol. viii, p. 68; (215) vol. ix, p. 15; (222) vol. x, pp. 56, 62, 78, 80.

U. perpurpureus.

P. A. N. S., (192) vol. xiii, 1861, p. 41; J. A. N. S., (242) vol. vi, 1866, p. 46, pl. xvi, f. 44; Obs. Gen. Unio, (244) vol. xi, p. 50, pl. xvi, f. 44.

U. perradiatus.

P. A. N. S., (136) vol. x, 1858, p. 40; J. A. N. S., (203) vol. v, 1861, p. 66, pl. vi, f. 215; Obs. Gen. Unio, (205) vol. viii, p. 70, pl. vi, f. 215.

U. personatus.

T. A. P. S., (27) vol. vi, 1838, pp. 131, 147; (43) vol. viii, 1841, p. 231; J. A. N. S., (221) vol. v, 1863, p. 442; Obs. Gen. Unio, (29) vol. ii, pp. 131, 147; (44), vol. iii, p. 69; (222) vol. x, p. 78.

U. perstriatus.

P. A. P. S., (93) vol. v, 1852, p. 252; T. A. P. S., (79) vol. x, 1852, p. 255, pl. xxi, f. 3; J. A. N. S., (203) vol. v, 1861, p. 58; Obs. Gen. Unio, (83) vol. v, p. 11, pl. xii, f. 3; (205) vol. viii, p. 62.

U. persulcatus.

P. A. N. S., (152) vol. xi, 1859, p. 153; J. A. N. S., (168) vol. iv, 1859, p. 255, pl. xl, f. 135; Obs. Gen. Unio, (170) vol. vii, p. 73, pl. xl, f. 135.

U. pertenuis.

J. A. N. S., (242) vol. vi, 1866, p. 8, pl. ii, f. 4; Obs. Gen. Unio, (244) vol. xi, p. 12, pl. ii, f. 4.

U. Peruviana.

T. A. P. S., (12) vol. iii, 1829, pp. 406, 417, 418, 421; (20) vol. v, 1833, p. 87; (27) vol. vi, 1838, p. 122; Obs. Gen. Unio, (21) vol. i, pp. 20, 31, 32, 35, 199, also errata; (29) vol. ii, p. 122.

U. petrinus.

J. A. N. S., (189) vol. iv, 1860, pp. 359, 372; (203) vol. v, 1861, p. 100; (213) vol. v, 1862, p. 186; Obs. Gen. Unio, (205) vol. viii, pp. 41, 54, 104; (215) vol. ix, p. 18.

Unio petrosus.

T. A. P. S., (27) vol. vi, 1838, pp. 134, 151; Obs. Gen. Unio, (29) vol. ii, pp. 134, 151.

U. phaseolus.

T. A. P. S., (27) vol. vi, 1836, p. 51; 1838, pp. 133, 147; (43) vol viii, 1841, pp. 231 240; (55) vol x, 1845, p. 81; P. A. N. S., (110) vol. viii, 1856, p. 94; J. A. N. S., (133) vol. iii, 1857, pp. 297, 299, pl. xxvi, f. 11; (147) vol. iv, 1858, p. 47, pl. v, f. 12; (148) vol. iv, 1858, p. 86; (159) vol. iv, 1859, pp. 191, 199, 200, 220, pl. xxix, ff. 101, 101*a*; (221) vol. v, 1863, pp. 404, 408, 443, 444; Obs. Gen. Unio, (29) vol. ii, pp. 51, 133, 147; (44) vol. iii, pp. 69, 78; (56) vol iv, p. 81; (150) vol. vi, pp. 17, 19, 86, pl. v, f. 12; pl. xxvi, f 11; (170) vol. vii, pp. 9, 17, 18, 38, pl. xxix, ff. 101, 101*a*; (222) vol. x, pp. 40, 44, 54, 79, 80.

U. Phillipsii.

T. A. P. S., (27) vol. vi, 1838, pp. 123, 147; (43) vol. viii, 1840, p 194; Obs. Gen Unio, (29) vol. ii, pp. 123, 147; (44) vol. iii, p. 32.

U. Pianensis.

T. A. P. S, (27) vol. vi, 1838, p. 130; Obs. Gen. Unio, (29) vol. ii, p. 130.

U. piceus.

P. A. N. S., (176) vol. xii, 1860, p. 91; J. A. N. S., (220) vol. v, 1863, p. 379, pl. xli, f. 287; Obs. Gen. Unio, (222) vol. x, p. 15, pl. xli, f. 287.

U. pictorum.

T. A. P. S., (9) vol. iii, 1827, p. 267; (12) vol. iii, 1829, pp. 406, 414, 417, 423, 424, 425; (15) vol. iv, 1830, p 67; (20) vol. v, 1833, pp. 90, 91, 92; (27) vol. vi, 1838, pp. 118, 128, 132, 145; (43) vol. viii, 1840, pp. 197, 222; (79) vol. x, 1852, p. 270; Obs. Gen. Unio, (21) vol. i, pp. 9, 20, 28, 31, 37, 38, 39, 77, 202, 203, 204; (29) vol. ii, pp. 118, 128, 132, 145; (44) vol. iii, pp. 35, 60; (83) vol. v, p. 26.

U. pictus.

T. A. P. S, (20) vol. v, 1833, pp. 73, 74, pl xi, f. 32; (27) vol. vi, 1838, pp. 127, 147; (43) vol. viii, 1841, p 244; J. A. N. S., (189) vol. iv, 1860, pp. 351, 353, 355; Obs. Gen. Unio, (21) vol. i, p. 186; (29) vol. ii, pp. 127, 147; (44) vol. iii, p. 82; (205) vol. viii, pp. 33, 35, 37.

U. piger.

P. A. N. S., (176) vol. xii, 1860, p. 90; J. A. N. S., (220) vol. v, 1863, p. 387, pl xlv, f. 296; Obs. Gen. Unio, (222) vol x, p. 23, pl. xlv, f. 296.

U. pilaris.

P. A. P. S., (35) vol. i, 1840, p. 285; T. A. P. S., (43) vol. viii, 1840, p 209, pl. xiv, f. 24; Obs. Gen. Unio, (44) vol. iii, p 47, pl. xiv, f. 24.

U. platus.

J. A. N. S., (257) vol. vi, 1868, p. 281, pl. xxxviii, f. 95; Obs. Gen. Unio, (259) vol. xii, p. 41, pl. xxxviii, f. 95.

U. pileus.

T. A. P. S., (15) vol. iv, 1831, p 119, pl. xviii, f. 47; (27) vol. vi, 1838 pp 125, 147; (43) vol. viii, 1841, p 231; Obs. Gen. Unio, (21) vol. i, p. 129, pl. xviii, f. 47; (29) vol. ii, pp. 125, 147; (44) vol. iii, p. 69.

Unio pinguis.

P. A. N. S., (121) vol. ix, 1857, p. 84; J. A. N. S., (148) vol. iv, 1858, p. 78, pl. xv, f. 58; Obs. Gen. Unio, (150)vol. vi, p. 78, pl. xv, f. 58.

U. placitus.

P A. P. S., (93) vol. v, 1852, p. 252; T. A. P. S., 79) vol. x, 1852, p. 279, pl. xxiii, f. 38; Obs. Gen. Unio, (83) vol. v, p. 35, pl. xxiii, f. 38.

U. plancus.

P. A. N. S., (186) vol. xii, 1860, p. 307; J. A. N. S., (203) vol. v, 1861, p. 81, pl. x, f. 229; Obs. Gen. Unio, (205) vol. viii, p. 85, pl. x, f. 229.

U. planicostatus.

P. A. N. S., (177) vol. xii, 1860, p. 92; J. A. N. S., (189) vol. iv, 1860, p. 354, pl. lix, f. 179; Obs. Gen. Unio, (205) vol. viii, p. 36, pl. lix, f. 179.

U. planilateris.

T. A. P. S., (79) vol. x, 1852, p. 258; Obs. Gen. Unio, (83) vol. v, p. 14.

U. planior.

J. A. N. S., (258) vol. vi, 1868, p. 316, pl. l, f. 129; Obs. Gen. Unio, (259) vol. xii, p. 76, pl. l, f. 129.

U. Plantii.

P. A. N. S., (129) vol. ix, 1857, p. 171; J. A. N. S., (159) vol. iv, 1859, pp. 192, 197, pl. xxi, f. 76; (242) vol. vi, 1866, p. 21; Obs. Gen. Unio, (170) vol. vii, pp. 10, 15, pl. xxi, f. 76; (244) vol. xi, p. 25.

U. planulatus.

T. A. P. S., (12) vol. iii, 1829, pp. 409, 412, 420, 431, pl. ix, f. 13; (20) vol.v, 1833, pp. 74,102; (27) vol. vi, 1836, p. 56; 1838, p. 133; Obs. Gen. Unio, (21) vol. i, pp. 23, 26, 34, 45, 186, 214, pl. ix, f. 13; (29) vol. ii, pp. 56, 133.

U. planus.

T. A. P. S., (12) vol. iii, 1829, p. 452; (27) vol. vi, 1838, pp. 121, 128; Obs. Gen. Unio, (21) vol. i, p. 66; (29) vol. i, pp. 121, 128.

U. plateolus.

T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

U. platyrhynchus.

T. A. P. S., (27) vol. vi, 1838, pp. 132, 145; Obs. Gen. Unio, (29) vol. ii, pp. 132, 145.

U. plenus.

P. A. P. S., (35) vol. i, 1840, p. 286; T. A. P. S., (43) vol. viii, 1840, p. 211, pl. xiv, f. 26; Obs. Gen. Unio, (44) vol. iii, p. 49, pl. xiv, f. 26.

U. plicatulus.

P. A. N. S., (152) vol. xi, 1859, p. 152; J. A. N. S., (168) vol. iv, 1859, p. 247, pl. xxxvii, f. 127; Obs. Gen. Unio, (170) vol. vii, p. 65, pl. xxxvii, f. 126.

U. plicatus.

T. A. P. S., (12) vol. iii, 1829, pp. 409, 411, 412, 417, 418, 421, 422; (15) vol. iv, 1830, pp. 65, 68, 69. 71; 1831, p. 106; (20) vol. v, 1833, p. 87; (27) vol. vi, 1838, pp. 119, 122, 123, 147; (43) vol. viii, 1841, p. 231; (55) vol. x, 1845, p. 68; J. A. N. S., (221) vol. v, 1863, p. 431; Obs. Gen. Unio, (21) vol. i, pp. 23, 25, 26, 31, 32, 35, 77, 78, 79, 81, 116, 199, also errata; (29) vol. ii, pp. 119, 122, 123, 147; (44) vol. iii, p. 69; (56) vol. iv, p. 68; (222) vol. x, p. 67.

Unio pliciferus.

T. A. P. S., (27) vol. vi, 1836, p. 61, pl. xvii, f. 53, 1838, pp. 122, 147; (43) vol. viii, 1841, p. 235; J.A.N.S., (258)vol.vi,1868, p. 236; Obs. Gen. Unio, (29) vol. ii, pp. 61, 122, 147, pl. xvii, f. 53; (44) vol. iii, p. 73; (259) vol. xii, p. 86.

U. Poeyanus.

P. A. N. S., (122) vol. ix, 1857, p. 85; J. A. N. S., (133) vol. iii, 1857, p. 315, pl. xxxii, f. 30; (189) vol. vi, 1860, p. 373; Obs. Gen. Unio, (150) vol. vi, 1857, p. 35, pl. xxxii, f. 30; (205) vol. viii, p. 55.

U. politus.

T. A. P. S., (27) vol. vi, 1838, p. 131; Obs. Gen. Unio, (29) vol. ii, p. 131.

U. ponderosus.

T. A. P. S., (12) vol. iii, 1829, p. 421; (27) vol. vi, 1838, pp. 122, 144, 145; J. A. N. S., (189) vol. iv, 1860, p. 366; Obs. Gen. Unio, (21) vol i, p. 35; (29) vol. ii, pp. 122, 144, 145; (205) vol. viii, p. 48.

U. Popeii.

P. A. N. S., (125) vol. ix, 1857, p. 102; J. A. N. S., (133) vol. iii, 1857, p. 316; (189) vol. iv, 1860, p. 372; Obs. Gen. Unio, (150) vol. vi, p. 36; (205) vol. viii, p. 54, pl. lvi, f. 197.

U. porphyreus.

P. A. N. S., (196) vol. xiii, 1861, p. 60; J. A. N. S., (203)vol.v, 1861, p. 80, pl. x, f. 228; Obs. Gen. Unio, (205) vol. viii, p. 84, pl. x, f. 228.

U. porrectus.

T. A. P. S., (27) vol. vi, 1838, pp. 134, 151; Obs. Gen. Unio, (29) vol. ii, pp. 134, 151.

U. Postellii.

P. A. N. S., (143) vol. x, 1858, p. 165; J. A. N. S., (159) vol. iv, 1859, p. 214, pl. xxvi, f. 94; Obs. Gen. Unio, (170) vol. vii, p. 32, pl. xxvi, f. 94.

U. Poulsoni.

T. A. P. S., (27) vol. vi, 1838, p. 133; Obs. Gen. Unio, (29) vol. ii, p. 133.

U. Powellii.

P. A. P. S., (93) vol. v, 1852, p. 252; T. A. P. S., (79) vol. x, 1852, p. 270, pl. xix, f. 25; Obs. Gen. Unio, (83) vol. v, p. 26, pl. xix, f. 25.

U. prælongus.

T. A. P. S., (12) vol. iii, 1829, pp. 418, 423; (20) vol. v, 1833, p. 89; (27) vol. vi, 1838, p. 131; Obs. Gen. Unio, (21) vol. i, pp. 32, 37, 201.

U. prasinus.

T. A P. S., (27) vol. vi, 1838, p. 123; Obs. Gen. Unio, (29) vol. ii, p. 123.

U. Prattii.

P. A. N. S., (143) vol. x, 1858, p. 166; J. A. N. S., (147) vol. iv, 1858, p. 47, pl. v, f. 8; (159) vol. iv, 1859, p. 206, pl. xxiv, ff. 88, 88*a*; (242) vol. vi, 1866, p. 8; Obs. Gen. Unio, (150) vol. vi, p. 47, pl. v, f. 8; (170) vol. vii, p. 24, pl. xxiv, ff. 88, 88*a*; (244) vol. xi, p. 12.

U. preciosus.

T. A. P. S., (27) vol. vi, 1838, pp. 134, 151; Obs. Gen. Unio, (29) vol. ii, pp. 134, 151.

U. pressus.

T. A. P. S, (79) vol. x, 1852, pp. 257, 294; (147) vol. iv, 1858, p. 48, pl. v, f. 23; (221) vol. v, 1863, pp. 423, 442; Obs. Gen. Unio, (83) vol v. pp. 13, 50; (150) vol.vi, p. 48, pl.v, f. 23; (222) vol. x, pp. 59, 78.

Unio Prevostianus.

P. A. P. S., (93), vol. v, 1852, p. 252; T. A. P. S., (79) vol. x, 1852, p. 269, pl. xix, f. 24; J. A. N. S., (159) vol. iv, 1859, p. 194; (189) vol. iv, 1860, p. 350; Obs. Gen. Unio, (83) vol. v, p. 25, pl. xviii, f. 24; (170), vol. vii, p. 12; (205) vol. viii, p. 32.

U. productus.

T. A. P. S., (27) vol. vi, 1838, pp. 132, 147; Obs. Gen. Unio, (29) vol. ii, pp. 132, 147.

U. propinquus.

P. A. N. S., (120) vol. ix, 1857, p. 83; J. A. N. S., (203) vol. v, 1861, p. 63, pl. v, f. 212; Obs. Gen. Unio, (205) vol. viii, p. 67, pl. v, f. 212.

U. proprius.

P. A. N. S., (235) vol. xvii, 1865, p. 89; J. A. N. S. (257) vol. vi, 1868, p. 256, pl. xxxi, f. 70; Obs. Gen. Unio, (259) vol. xii, p. 16, pl. xxxi, f. 70.

U. protensus.

P. A. N. S., (235) vol. xviii, 1865, p. 88; J. A. N. S., (257) vol. vi, 1868, p. 256, pl. xxxi, f. 71; Obs. Gen. Unio, (259) vol. xii, p. 16, pl. xxxi, f. 71.

U. proximus.

P. A. P. S., (93) vol. v, 1852, p. 252; T. A. P. S., (79) vol. x, 1852, p. 271, pl. xx, f. 27; J. A. N. S., (189) vol. iv, 1860, p. 340; Obs. Gen. Unio, (83) vol. v, p. 27, pl. xx, f. 27; (205) vol. viii, p. 22.

U. prunoides.

J. A. N. S., (258) vol. vi, 1868, p. 323, pl. liii, f. 136; Obs. Gen. Unio, (259) vol. xii, p. 83, pl. liii, f. 136.

U. psammoica.

T. A. P. S., (27) vol. vi, 1838, pp. 134, 151; Obs. Gen. Unio, (29) vol. ii, pp. 134, 151.

U. pudicus.

P. A. N. S, (177) vol. xii, 1860, p. 92; J. A. N. S., (189) vol. iv, 1860, p. 346, pl. xlvi, f. 171; Obs. Gen. Unio, (205) vol. viii, p. 28, pl. lvi, f. 171.

U. pulcher.

T. A. P. S., (27) vol. vi, 1834, pp. 6, 16, pl. iii, f. 6; 1838, pp. 127, 147; Obs. Gen. Unio, (29) vol. ii, pp. 6, 16, pl. iii, f. 6; (29) vol. ii, pp. 127 147.

U. pulchellus.

T. A. P. S., (27) vol. vi, 1838, pp. 134, 151; Obs. Gen. Unio, (29) vol. ii, pp. 134, 151.

U. pullatus.

P. A. N. S., (116) vol. viii, 1856, p. 262; J. A. N. S., (148) vol. iv, 1858, pp. 57, 76, pl. viii, f. 39; (189) vol. iv, 1860, p. 329; (203) vol. v, 1861, p. 54; Obs. Gen. Unio, (150) vol. vi, pp. 57, 76, pl. viii, f. 39; (205) vol. viii, pp. 11, 58.

U. pulvinulus.

T. A. P. S., (55) vol. x, 1845, p. 81, pl. viii, f. 24; (79) vol. x, 1852, p. 279; J. A. N. S., (189) vol. iv, 1860, p. 348; (203) v, 1861, p. 58; Obs. Gen. Unio, (56) vol. iv, p. 81. pl. viii, f. 24; (83) vol. v, p. 35; (205) vol. viii, pp. 30, 62.

U. pumilus.

T. A. P. S., (27) vol. vi, 1836, p. 23, pl. vii, f. 17; 1838, pp. 125, 147; Obs. Gen. Unio, (29) vol. ii, pp. 23, 125, 147, pl. vii, f. 17.

Unio punctatus.

P. A. N. S., (235) vol. xvii, 1865, p. 89; J. A. N. S., (257) vol. vi, 1868, p. 261, pl. xxxii, f. 76; Obs. Gen. Unio, (259) vol. xii, p. 21, pl. xxxii, f. 76.

U. purpurascens.

T. A. P. S., (12) vol. iii, 1829, pp. 416, 422; (20) vol. v, 1833, p. 88; (27) vol. vi, 1838, p. 130; Obs. Gen. Unio, (21) vol. i, pp. 30, 36, 200; (29) vol. ii, p. 130.

U. purpuratus.

T. A. P. S., (12) vol iii, 1829, pp. 418, 422; (20) vol. v, 1833, p. 87; (27) vol. vi, 1836, p. 49; 1838, pp. 133, 134, 143, 147, 151; (54) vol. ix, 1843, p. 281; J. A. N. S., (133) vol. iii, 1857, p. 314; (203) vol. v, 1861, pp. 76, 80, 102; (221) vol. v, 1863, pp. 425, 436; (242) vol. vi, 1866, p. 27; (274) vol. viii, 1874, p. 69, pl. xxi, f. 13: Obs. Gen. Unio, (21) vol. i, pp. 32, 36, 199; (29) vol. ii, pp. 49, 133, 134, 143, 147, 151; (56) vol. iv, p. 281; (150) vol. vi, p. 34; (205) vol. viii, pp. 80, 84, 106; (222) vol. x, pp. 61, 72; (244) vol. xi, p. 31; (275) vol. xiii, p. 73, pl. xxi, f. 13.

U. purpurellus.

P. A. N. S., (129) vol. ix, 1857, p. 171; J. A. N. S., (159) vol. iv, 1859, p. 198, pl. xxiii, f. 81; Obs. Gen. Unio, (170) vol. vii, p. 16, pl. xxiii, f. 81.

U. purpureus.

T. A. P. S., (12) vol. iii, 1829, pp. 408, 416; (20) vol. v, 1833, p. 88; (27) vol. vi, 1838, p. 119; (27) vol. vi, 1838, p. 130; Obs. Gen. Unio, (21) vol. i, pp. 22, 30, 200; (29) vol. ii, pp. 119, 130.

U. purus.

P. A. N. S., (136) vol. x, 1858, p. 41; J. A. N. S., (203) vol. v, 1861, p. 61, pl. iv, f. 209; Obs. Gen. Unio, (205) vol. viii, p. 65. pl. iv, f. 209.

U. pusillus.

P. A. P. S., (35) vol. i, 1860, p. 286; T. A. P. S., (43) vol. viii, 1840, p. 220, pl. xviii, f. 36; (54) vol. ix, 1843, p. 277; J. A. N. S., (189) vol. iv, 1860, p. 341; (242) vol. vi, 1866, p. 10; Obs. Gen. Unio, (44) vol. iii, p. 58, pl. xviii, f. 36; (56) vol. iv, p. 277; (205) vol. viii, p. 23; (244) vol. xi, p. 14.

U. pustulatus.

T. A. P. S., (15) vol. iv, 1830, p. 79, pl. vii, f. 9; (29) vol. ii, 1836, p. 73; (1838) pp. 123, 147; (43) vol. viii, 1841, p. 231; J. A. N. S., (221) vol. v, 1863, p. 429; Obs. Gen. Unio, (21) vol i, p. 89, pl. vii, f. 9; (29) vol. ii, pp. 73, 123, 147; (44) vol. iii, p. 69; (222) vol. x, p. 65.

Unio pustulosus.

T. A. P. S., (15) vol. iv, 1830, pp. 64, 76, pl. viii, f. 7; (20) vol. v, 1833, p. 61; (27) vol. vi, 1834, p. 11; 1838, pp. 119, 123, 147; (43) vol. viii, 1841, p. 231; (79) vol. x, 1852, p. 281; P. A. P. S., (66) vol. v, 1851, p. 192; J. A. N. S., (203) vol. v, 1861, p. 69; (213) vol. v., 1862, p. 206; (221) vol. v, 1863, p. 428; Obs. Gen. Unio, (21) vol. i, pp. 74, 86, 89, 173, pl. vii, f. 7; (29) vol. ii, pp. 11, 119, 123, 147; (44) vol. iii, p. 69; (83) vol. v, p. 37; (205) vol. viii, p. 73; (215) vol. ix, p. 28; (222) vol. x, p. 64.

U. Pybasii.

P. A. N. S., (136) vol. x, 1858, p. 40; J. A. N. S., (203) vol. v, 1861, p. 67, pl. vi, f. 216; Obs. Gen. Unio, (205) vol. viii, p. 71, pl. vi, f. 216.

U. pygmæus.

P. A. P. S., (93) vol. v, 1852, p. 252; T. A. P. S., (79) vol. x, 1852, p. 262, pl. xv. f. 14; Obs. Gen. Unio, (83) vol. v, p. 18, pl. xv, f. 14.

U. pyriformis.

P. A. N. S., (119) vol. ix, 1857, p. 31; J. A. N. S., (148) vol. iv, 1858, p. 69, pl. xii, f. 50; Obs. Gen. Unio, (150) vol. vi, p. 69, pl. xii, f. 50.

U. pyramidatus.

T. A. P. S., (15) vol. iv, 1831. pp. 109, 111, pl. xvi, f. 39; (27) vol. vi, 1834, pp. 13, 14; (27) vol. vi, 1838, pp. 125, 147; (43) vol. viii, 1840, p. 213; 1841, p. 231; P. A. N. S., (115) vol. viii, 1856, p. 213; J. A. N. S., (221) vol. v, 1863, p. 433; Obs. Gen. Unio, (21) vol. i, pp. 13, 14, 119, 121, pl. xvi, f. 39; (29) vol. ii, pp. 125, 147; (44) vol. iii, pp. 51, 69; (222) vol. x, p. 69.

U. quadrans.

P. A. N. S., (185) vol. xii, 1860, p. 306; J. A. N. S., (189) vol. iv, 1860, p. 360, pl. lxi, f. 185; Obs. Gen. Unio, (205) vol. viii, p. 42, pl. lxi, f. 185.

U. quadratus.

P. A. N. S., (156) vol. xi, 1859, p. 172; J. A. N. S., (205) vol. viii, p. 20, pl. liv, f. 163.

U. quadrilaterus

J. A. N. S., (242) vol. vi, 1866, pp. 5, 15, pl. i, f. 1; Obs. Gen. Unio, (244) vol. xi, pp. 9, 19, pl. i, f. 1.

U. quadrulus.

T. A. P. S., (27) vol. vi, 1838, pp. 123. 144; Obs. Gen. Unio, (29) vol. ii, pp. 123, 144.

U. radians.

P. A. N. S., (119) vol. ix, 1857, p. 32; J. A. N. S., (159) vol. iv, 1859, p. 201. pl. xxiii, f. 84; (189) vol. iv, 1860, p. 342; Obs. Gen. Unio, (170) vol. vii, p. 19, pl. xxiii, f. 84; (205) vol. viii, p. 24.

U. radiatus.

T. A. P. S., (12) vol. iii, 1829, pp. 411, 415, 422, 425; (15) vol., iv, 1830, p. 73; (20) vol. v. 1833, pp. 88, 91; (27) vol. vi, 1834, p. 14; 1836, pp. 39, 49, 50, 52, 53, 54, 57; 1838, pp. 127, 147; (43) vol. viii, 1840, p. 199; 1841, pp. 234, 244; (79) vol. x, 1852, pp. 261, 270; P. A. N. S., (118)

Unio radiatus—Continued.

vol. ix, 1857, pp. 17, 18; J. A. N. S., (147) vol. iv, 1858, p. 48, pl. v, f. 20; (148) vol. iv, 1858, pp. 51, 76; (189) vol. iv, 1860, p. 364; (221) vol. v, 1863, pp. 407, 411, 412, 450; Obs. Gen. Unio, (21) vol. i, pp. 25, 29, 36, 83, 200, 203; (29) vol. ii, pp., 14, 39, 49, 50, 52, 53, 54, 56; (29) vol. ii, pp. 127, 147; (44) vol. iii, p. 37, 72, 82; (83) vol. v, pp. 17, 26; (150) vol. vi, pp. 48, 51, 76, pl. v, f. 20; (205) vol. viii, p. 46; (222) vol. x, pp. 43, 47, 48, 86.

U. radiolus.

J. A. N. S., (273) vol. viii, 1874, p. 21, pl. vi, f. 18; Obs. Gen. Unio, (275) vol. xiii, p. 25, pl. vi, f. 18.

U. radiosus.

J. A. N. S., (273) vol. viii, 1874, p. 13, pl. iii, f. 9; Obs. Gen. Unio, (275) vol. xiii, p. 17, pl. iii, f. 9.

U. Raffensis.

P. A. N. S., (156) vol. xi, 1859, p. 171; J. A. N. S., (189) vol. iv, 1860, p. 331, pl. lii, f. 156; Obs. Gen. Unio, (205) vol. viii, p. 12, pl. lii, f. 156.

U. Rajahensis.

P. A. P. S., (39) vol. ii, 1841, p. 30; T. A. P. S., (43) vol. viii, 1841, p. 238, pl. xxiii, f. 53; J. A. N. S., (242) vol. vi, 1866, p. 32; Obs. Gen. Unio, (44) vol. iii, p. 77, pl. xxiii, p. 53; (244) vol. xi, p. 36.

U. Raleighensis.

J. A. N. S., (242) vol. vi, 1866, pp. 6, 7, pl. i, f. 2; Obs. Gen. Unio, (244) vol. xi, pp. 10, 11, pl. i, f. 2.

U. Rangianus.

T. A. P. S., (27) vol. vi, 1837, p. 95, pl. xviii, f. 56; 1838, pp. 126, 147; J. A. N. S., (203) vol. v, 1861, p. 64; (213) vol. v, 1862, p. 193; (221) vol. v, 1863, p. 426; Obs. Gen. Unio, (29) vol. ii, pp. 95, 126, 147, pl. xviii, f. 56; (205) vol. viii, p. 68; (215) vol ix, p. 15; (222) vol. x, p. 62.

U. rariplicata.

T. A. P. S., (12) vol. iii, 1829, pp. 417, 421, 422; (27) vol. vi, 1838, p. 122; Obs. Gen. Unio, (21) vol. i, pp. 31, 35, 36; (29) vol. ii, p. 122.

U. rarisulcata.

T. A. P. S., (12) vol. iii, 1829, pp. 416, 422; (20) vol. v, 1833, p. 88; (27) vol. vi, 1838, p. 130; Obs. Gen. Unio, (21) vol. i, pp. 30, 36, 200; (29) vol. ii, p. 130.

U. rasus.

J. A. N. S., (242) vol. vi, 1866, p. 50, pl. xvii, f. 47; Obs. Gen. Unio, (244) vol. xi, p. 154, pl. xvii, f. 47.

U. ratus.

J. A. N. S., (273) vol. viii, 1874, p. 52, pl. xviii, f. 57; Obs. Gen. Unio, (275) vol. xiii, p. 56, pl xviii, f. 51.

U. Raveneli.

T. A. P. S., (27) vol. vi, 1838, p. 130; Obs. Gen. Unio, (29) vol. ii, p. 130.

Unio Ravenelianus.

T. A. P. S., (20) vol. v, 1832, p. 32, pl. iii, f. 5; (27) vol. vi, 1838, pp. 126, 147; (43) vol. viii, 1840, p. 203; 1841, p. 236; (79) vol. x, 1852, p. 281; (159) vol. iv, 1859, pp. 205, 228; (189) vol. iv, 1860, p. 349; (213) vol. v, 1862, p. 207; Obs. Gen. Unio, (21) vol. i, p. 144, pl. iii, f. 5; (29) vol. ii, pp. 126, 147; (44) vol. iii, pp. 41, 74; (83) vol. v, p. 37; (170) vol. vii, pp. 26, 46; (205) vol. viii, p. 31; (215) vol. ix, p. 29.

U. rectus.

T. A. P. S., (12) vol. iii, 1829, pp 406, 409, 410, 411, 418, 422, 423; (15) vol. iv, 1830, p. 77; (20) vol. v, 1832, pp. 26, 89; (27) vol vi, 1836, p. 55; 1838, pp. 119, 131, 147; (43) vol. viii, 1841, p. 231; (79) vol. x, 1852, p. 257; P. A. P. S., (66) vol. v, 1851, pp. 192, 193; P. A. N. S., (135) vol. x, 1858, pp. 13, 14; J. A. N. S., (147) vol. iv, 1858, p. 47, pl. v, f. 11; (159) vol. iv, 1859, p. 221; (221) vol. v, 1863, p. 426; (242) vol. vi, 1866, p. 27; Obs. Gen. Unio, (21) vol. i, pp. 20, 23, 24, 25, 32, 36, 37, 87, 138, 201; (29) vol. ii, pp. 55, 119; (44) vol. iii, p. 69; (83) vol. v, p. 13; (150) vol. vi, p. 47, pl. v, f. 11; (170) vol. vii, p. 39; (222) vol. x, p. 62; (244) vol. xi, p. 31.

U. recurvatus.

J. A. N. S., (273) vol. viii, 1874, p. 10, pl. ii, f. 6; Obs. Gen. Unio, (275) vol. xiii, p. 14, pl. xiv, f. 6.

U. Reeveianus.

P. A. P. S., (93) vol. v, 1852, p. 252; T. A. P. S., (83) vol. v, p. 28, pl. xx, f. 28.

U. reflexus.

T. A. P. S., (27) vol. vi, 1838, p. 123; Obs. Gen. Unio, (29) vol. ii, p. 123.

U. refulgens.

J. A. N. S., (258) vol. vi, 1868, p. 317, pl. li, f. 130; Obs. Gen. Unio, (259) vol. xii, p. 77, pl. li, f. 130.

U. regularis.

P. A. P. S., (40) vol. ii, 1841, p. 82; T. A. P. S., (43) vol. viii, 1841, p. 243, pl. xxv, f. 59; Obs. Gen. Unio, (44) vol. iii, p. 81, pl. xxv, f. 59.

U. reniformis.

T. A. P. S., (27) vol. vi, 1838, p. 128; Obs. Gen. Unio, (29) vol. ii, p. 128.

U. Requienii.

T. A. P. S., (27) vol. vi, 1838, p. 132; Obs. Gen. Unio, (29) vol. ii, p. 132.

U. retusus.

T. A. P. S., (12) vol. iii, 1829, p. 422; (20) vol. v, 1833, p. 88; (27) vol. vi, 1836, p. 55; 1838, pp. 131, 144, 147; (43) vol. viii, 1841, p. 231; J. A. N. S., (147) vol. iv, 1858, p. 47, pl. v, f. 7; (221) vol v, 1863, p. 433; Obs. Gen. Unio, (21) vol. i, pp. 36, 200; (29) vol. ii, pp. 55, 131, 144, 147; (44) vol iii, p. 69; (150) vol. vi, p. 47, pl. v, f. 7; (222) vol. x, p. 69.

U. Retzii.

J. A. N. S., (242) vol. vi. 1866, p. 53; Obs. Gen. Unio, (244) vol. xi, p. 57.

U. rhombeus.

T. A. P. S., (27) vol. vi, 1838, pp. 133, 148; Obs. Gen. Unio, (29) vol. ii, pp. 133, 148.

Unio rhomboidea.

T. A. P. S., (27) vol. vi, 1838, p. 130; Obs. Gen. Unio, (29) vol. ii, p. 130.

U. rhombula.

T. A. P. S., (12) vol. iii, 1829, pp. 416, 422; (20) vol. v, 1833, p. 88; (27) vol. vi, 1838, p. 130; Obs. Gen Unio, (21) vol. i, pp. 30, 36, 200; (29) vol ii, p. 130.

U. rhuocoica.

T. A. P. S., (27) vol. vi, 1838, pp. 134, 151; J. A. N. S., (133) vol. iii, 1857, p. 306; Obs. Gen. Unio, (29) vol. ii, pp. 134, 151; (150) vol. vi, p. 26.

U. Riddellii.

P. A. N. S., (200) vol. xiii, 1861, p. 392; J. A. N. S., (213) vol. v, 1862, pp. 197, 198, pl. xxvii, f. 267; Obs. Gen. Unio, (215) vol. ix, pp. 19, 20, pl. xxvii, f. 267.

U. ridibundus.

T. A. P. S., (15) vol. iv, 1831, p. 117; (20) vol. v, 1832, p. 35; (27) vol. vi, 1838, p. 126; (43) vol. viii, 1841, p. 231; J. A. N. S., (221) vol. v, 1863, p. 442; Obs. Gen. Unio, (21) vol. i, p. 127; (29) vol. ii, p. 126; (44) vol. iii, p. 69; (222) vol. x, p. 78.

U. rimosus.

T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

U. riparia.

T. A. P. S., (27) vol. vi, 1838, p. 128; Obs. Gen. Unio, (29) vol. ii, p. 128.

U. rivalis.

T. A. P. S., (27) vol. vi, 1838, p. 136; Obs. Gen. Unio, (29) vol. ii, p. 136.

U. rivularis.

T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

U. Roanokensis.

T. A. P. S., (27) vol. vi, 1836, p. 27, pl. viii, f. 21; 1838, pp. 129, 147; J. A. N. S., (159) vol. iv, 1859, p. 206; (203) vol. v. 1861, p. 61; (213) vol. v. 1862, p. 203; Obs. Gen. Unio, (29) vol. ii, pp. 27, 129, 147, pl. viii, f. 21; (170) vol. vii, p. 24; (205) vol. viii, p. 65; (215) vol. ix, p. 25.

U. Roissyi.

T. A. P. S., (27) vol. vi, 1838, p. 136; Obs. Gen. Unio, (29) vol. ii, p. 136.

U. rosea.

T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

U. rostellum.

J. A. N. S., (273) vol. viii, 1871, p 44, pl. xv, f. 41; Obs. Gen. Unio, (275) vol. xiii, p. 48, pl. xv, f. 41.

U. rostræformis (see *U. rostriformis*).

P. A. N. S., (116) vol. viii, 1856, p. 262.

U. rostrata.

T. A. P. S., (12) vol. iii, 1829, pp. 417, 424; (20) vol v, 1833, p 90; (27) vol. vi, 1838, p. 132; Obs. Gen. Unio, (21) vol i. pp. 31, 38, 202; (29) vol. ii, p. 132.

Unio rostriformis.

J. A. N. S., (148) vol. iv, 1858, p. 64, pl. x, f. 46; (203) vol. v, 1861, p. 58; (242) vol. v, 1866, p. 13; Obs. Gen. Unio, (150) vol. vi, p. 64, pl. x, f. 46; (205) vol. viii, p. 62; (244) vol. xi, p. 17.

U. rostrum.

P. A. N. S., (200) vol. xiii, 1861, p. 391; J. A. N. S., (213) vol. v, 1862, p. 201, pl. xxix, f. 270; Obs. Gen. Unio, (215) vol. ix, p. 23, pl. xxix, f. 270.

U. Roswellensis.

P. A. N. S., (143) vol. x, 1858, p. 165; J. A. N. S., (159) vol. iv, 1859, pp. 205, 206, 215, pl. xxiv, f. 87; (189) vol. iv, 1860, p. 333; Obs. Gen. Unio, (170) vol. vii, pp. 23, 24, 33, pl. xxiv, f. 87; (205) vol. viii, p. 15.

U. rotundatus.

T. A. P. S., (12) vol. iii, 1829, pp. 423, 434; (20) vol. v, 1833, pp. 89, 92; (27) vol. vi, 1838, pp. 131, 147; (203) vol. v, 1861, p. 101; Obs. Gen. Unio, (21) vol. i, pp. 37, 48, 201, 204; (29) vol. ii, pp. 131, 147; (205) vol. viii, p. 105.

U. rotundus.

T. A. P. S., (27) vol. vi, 1838, pp. 131, 143; Obs. Gen. Unio, (29) vol. ii, pp. 131, 143.

U. Rowellii.

P. A. N. S., (152) vol. xi, 1859, p. 153; J. A. N. S., (168) vol. iv, 1859, pp. 256, 259, pl. xl, f. 136; (274) vol. viii, 1874, p. 67; Obs. Gen. Unio, (170) vol. vii, pp. 74, 77, pl. xl, f. 136; (275) vol. xiii, p. 71.

U. rubellinus.

P. A. N. S., (119) vol. ix, 1857, p. 32; J. A. N. S., (148) vol. iv, 1858, pp. 51, 70, pl. xiii, f. 51; (242) vol. vi, 1866, p. 46; (274) vol. viii, 1874, p. 68, pl. xxi, f. 5; Obs. Gen. Unio, (150) vol. vi, pp. 51, 70, pl. xiii, f. 51; (244) vol. xi, p. 50; (275) vol. xiii, p. 72, pl. xxi, f. 5.

U. rubellus.

T. A. P. S., (27) vol. vi, 1838, pp. 131, 147; Obs. Gen. Unio, (29) vol. ii, pp. 131, 147.

U. rubens.

T. A. P. S., (27) vol. vi, 1838, pp. 134, 151; Obs. Gen. Unio, (29) vol. ii, pp. 134, 151.

U. rubidus.

P. A. N. S., (192) vol. xiii, 1861, p. 40; J. A. N. S., (203) vol. v, 1861, pp. 77, 95, pl. xiv, f. 214; Obs. Gen. Unio, (205) vol. viii, pp. 81, 99, pl. xiv, f. 244.

U. rubiginosus.

T. A. P. S., (12) vol. iii, 1829, pp. 409, 412, 413, 420, 427, 438, pl. viii, f. 10; (20) vol. v, 1832, pp. 31, 38; (27) vol. vi, 1836, p. 32; 1838, pp. 125, 147; (43) vol. viii, 1841, pp. 231, 237; (55) vol. x, 1845, p. 77; (79) vol. x, 1852, p. 275; P. A. P. S., (66) vol. v, 1851, p. 192; P. A. N. S., (135) vol. x, 1858, pp. 13, 14; (141) vol. x, 1858, p. 135; J. A. N. S., (148) vol. iv, 1858, pp. 51, 59; (159) vol. iv, 1859, p. 222; (168) vol. iv, 1859, p. 270; (189) vol. iv, 1860, p. 347; (203) vol. v, 1861, pp. 56, 66, 71, 96, 100; (213) vol. v, 1862, p. 196; (221) vol v, 1863, pp. 416, 417, 432; (242) vol. vi, 1866, p. 27; Obs. Gen. Unio, (21) vol. i, pp. 23, 26, 27, 34, 41, 52, 143, 150, pl. viii, f. 10; (27) vol. ii, pp. 32, 125, 147; (44) vol. iii, pp. 69, 75; (56) vol. iv, p. 77; (83) vol. v, p. 31; P. A. P. S., (66) vol. v, 1851, p. 192; (150) vol. vi, pp. 51, 59; (170) vol. vii, pp. 40, 88; (205) vol. viii, pp. 29, 60, 70, 81, 100, 104; (215) vol. ix, p. 18; (222) vol. x, pp. 52, 53, 66; (244) vol. xi, p. 31.

U. rubra.

T. A. P. S., (27) vol. vi, 1838, p. 125; Obs. Gen. Unio, (29) vol. ii, p. 125.

U. rudus.

P. A. N. S., (158) vol. xi, p. 187; J. A. N. S., (168) vol. iv, 1859, p. 266, pl. xliii, f. 146; Obs. Gen. Unio, (170) vol. vii, p. 84, pl. xliii, f. 146.

U. rufofuscus.

P. A. N. S., (234) vol. xvii, 1865, p. 76; J. A. N. S., (257) vol. vi, 1868, p. 282, pl. xxxix, f. 96; Obs. Gen. Unio, (259) vol. xii, p. 42, pl. xxxix, f. 96.

U. rufus.

P. A. N. S., (129) vol. ix, 1857, p. 171; J. A. N. S., (148) vol. iv, 1858, p. 85, pl. xvii, f. 65; Obs. Gen. Unio, (150) vol. vi, p. 85, pl. xvii, f. 65.

U. rufusculus.

P. A. P. S., (93) vol. v, 1852, p. 252; T. A. P. S., (79) vol. x, 1852, p. 258, pl., xiv, f. 7; J. A. N. S., (148) vol. iv, 1858, pp. 64, 85; Obs. Gen. Unio, (83) vol. v, p. 14, pl. xiv, f. 7; (150) vol. vi, pp. 64, 85.

U. rugatus.

T. A. P. S., (27) vol. vi, 1838, pp. 134, 151; Obs. Gen. Unio, (29) vol. ii, pp. 134, 151.

U. rugososulcatus.

J. A. N. S., (257) vol. vi, 1868, p. 266, pl. xxxiv, f. 81; Obs. Gen. Unio, (259) vol. xii, p. 26, pl. xxxiv, f. 81.

U. rugosus.

T. A. P. S., (12) vol. iii, 1829, p. 418; (27) vol. vi, 1838, pp. 121, 123, 129, 134; Obs. Gen. Unio, (21) vol. i, p. 32; (29) vol. ii, pp. 121, 123, 129, 134.

U. Rumphianus.

P. A. P. S., (93) vol. v, 1852, p. 252; T. A. P. S., (79) vol. x, 1852, p. 276, pl. xxii, f. 34; J. A. N. S., (148) vol. iv, 1858, p. 66; Obs. Gen. Unio, (83) vol. v, p. 32, pl. xxii, f. 34; (150) vol. vi, p. 66.

U. rusticus.

P. A. N. S., (110) vol. viii, 1856, p. 93; J. A. N. S., (133) vol. iii, 1857, pp. 294, 296, pl. xxv, f. 7; Obs. Gen. Unio, (150) vol. vi, pp. 14, 16, pl. xxv, f. 7.

U. Rutersvillensis.

P. A. N. S., (154) vol. xi, 1859, p. 155; J. A. N. S., (189) vol. iv, 1860, p. 356, pl. lx, f. 181; (242) vol. vi, 1866, p. 27; Obs. Gen. Unio, (205) vol. viii, p. 38, pl. lx, f. 181; (244) vol. xi, p. 31.

Unio rutilans.

P. A. N. S., (116) vol. viii, 1856, p. 262; J. A. N. S., (147) vol. iv, 1858, p. 46, pl. v, f. 4; (148) vol. iv, 1858, pp. 59, 63, pl. ix, f. 41; (159) vol. iv, 1859, p. 202; (189) vol. iv, 1860, p. 328; Obs. Gen. Unio, (150) vol. vi, pp. 46, 59, 63, pl. v, f. 4; pl. ix, f. 41; (170) vol. vii, p. 20; (205) vol. viii, p. 10.

U. Sayeri.

T. A. P. S., (27) vol. vi, 1838, p. 131; Obs. Gen. Unio, (29) vol. ii, p. 131.

U. sagittæformis.

P. A. P. S., (93) vol. —, 1852, p. 252; T. A. P. S., (79) vol. x, 1852, p. 277, pl. xxii, f. 35; J. A. N. S., (148) vol. iv, 1858, pp. 65, 68; Obs. Gen. Unio, (83) vol. v, p. 33, pl. xxii, f. 35; (150) vol. vi, pp. 65, 68.

U. sagittarius.

P. A. N. S., (110) vol. viii, 1856, p. 93; J. A. N. S., (133) vol. iii, 1857, p. 298, pl. xxvi, f. 12; (168) vol. iv, 1859, p. 243; Obs. Gen. Unio, (150) vol. vi, p. 18, pl. xxvi, f. 12; (170) vol. viii, p. 61.

U. Saladoensis.

P. A. N. S., (184) vol. xii, 1860, p. 305; J. A. N. S., (189) vol. iv, 1860, p. 370, pl. lxv, f. 195; Obs. Gen. Unio, (205) vol. viii, p. 52.

U. salebrosus.

P. A. N. S., (156) vol. xi, 1859, p. 170; J. A. N. S., (189) vol. iv, 1860, pp. 332, 336, 337, 338, pl. lii, f. 157; Obs. Gen. Unio, (205) vol. viii, pp. 14, 18, 19, 20, pl. lii, f. 157.

U. Sampsonii.

P. A. N. S., (200) vol. xiii, 1861, p. 392; J. A. N. S., (213) vol. v, 1862, p. 192, pl. xxv, f. 261; Obs. Gen. Unio, (215) vol. ix, p. 14, pl. xxv, f. 261.

U. Santeénsis.

J. A. N. S., (273) vol. viii, 1874, p. 20, pl. vi, f. 17; Obs. Gen. Unio, (275) vol. xiii, f. 17.

U. Sapotalensis.

P. A. P. S., (39) vol. ii, 1841, p. 30; T. A. P. S., (43) vol. viii, 1841, p. 233, pl. xxi, f. 47; (79) vol. x, 1852, p. 276; Obs. Gen. Unio, (44) vol. iii, p. 71, pl. xxi, f. 47; (83) vol. v, p. 32.

U. Satillaensis.

P. A. N. S., (143) vol. x, 1858, p. 166; J. A. N. S., (159) vol. iv, 1859, p. 216, pl. xxvii, f. 96; Obs. Gen. Unio, (170) vol. vii, p. 34, pl. xxvii, f. 96.

U. satur.

P. A. P. S., (93) vol. v, 1852, p. 252; T. A. P. S., (79) vol. x, 1852, p. 265, pl. xvii, f. 19; Obs. Gen. Unio, (83) vol. v, p. 21, pl. xvii, f. 19.

U. Savannahensis.

P. A. N. S., (129) vol. ix, 1857, p. 169; J. A. N. S., (148) vol. iv, 1858, p. 81, pl. xvi, f. 61; (189) vol. iv, 1860, p. 330; (242) vol. vi, 1866, pp. 18, 23; Obs. Gen. Unio, (150) vol. vi, p. 81, pl. xvi, f. 61; (205) vol. viii, p. 12; (244) vol. xi, pp. 22, 27.

U. saxulum.

T. A. P. S., (27) vol. vi, 1838, pp. 134, 151; Obs. Gen. Unio, (29) vol. ii, pp. 134, 151.

U. scalenius.

T. A. P. S., (12) vol. iii, 1829, pp. 409, 412, 414, 418, 442; (15) vol. iv, 1830, p. 93; (20) vol. v, 1832, pp. 40, 72, 89; (27) vol. vi, 1838, p. 126, (79) vol. x, 1852, p. 279; Obs. Gen. Unio, (21) vol. i, pp. 23, 26, 28, 32, 56, 103, 152, 184, 201; (29) vol. ii, p. 126; (83) vol. v, p. 35.

U. Scamnatus.

J. A. N. S., (133) vol. iii, 1857, p. 302; (168) vol. iv, 1859, pp. 259, 267; Obs. Gen. Unio, (150) vol. vi, p. 22; (170) vol. vii, pp. 77, 85.

U. Schoolcraftensis.

T. A. P. S., (20) vol. v, 1832, p. 37, pl. iii, f. 9; (27) vol. vi, 1838, pp. 123, 147; (79) vol. x, 1852, p. 281; J. A. N. S., (213) vol. v, 1862, p. 196; Obs. Gen. Unio, (21) vol. i, p. 149, pl. iii f. 9; (29) vol. ii, pp. 123, 141; (83) vol. v, p. 37; (215) vol. ix, p. 18.

U. scitulus.

P. A. N. S., (177) vol. xii, 1860, p. 93; J. A. N. S., (189) vol. iv, 1860, pp. 342, 343, 350, pl. lv, f. 167; Obs. Gen. Unio, (205) vol. viii, pp. 24, 25, 32, pl. xxxv, f. 167.

U. scobinatus.

P. A. N. S., (110) vol. viii, 1856, p. 93; J. A. N. S., (133) vol. iii, 1857, p. 299, pl. xxvi, f. 13; (168) vol. iv, 1859, p. 251; Obs. Gen. Unio, (150) vol. vi, p. 19, pl. xxvi, f. 13; (170) vol. vii, p. 69.

U. securis.

T. A. P. S., (12) vol. iii, 1829, pp. 409, 411, 420, 428, 437; (15) vol. iv, 1831, p. 106; (27) vol. vi, 1838, p. 55; 1838, pp., 124, 147; (43) vol. viii, 1841, pp. 231, 248; (79) vol. x, 1852, p. 267; J. A. N. S., (147) vol. iv, 1858, p. 47, pl. v, f. 6; (221) vol. v, 1863, pp. 431, 440; Obs. Gen. Unio, (21) vol. i, pp. 23, 25, 34, 42, 51, 116; (29) vol. ii, pp. 55, 124, 147; (44) vol. iii, pp. 69, 86; (83) vol. v, p. 23; (150) vol. vi, p. 47, pl. v, f. 6; (222) vol. x, pp. 67, 76.

U. semirugata.

T. A. P. S., (12) vol. iii. 1829, p. 423; (20) vol. v, 1833, pp. 89, 90; (27) vol. vi, 1838, p. 130; Obs. Gen. Unio, (21) vol. i, pp. 37, 201, 202, 29) vol. ii, p. 130.

U. Shanghaiensis.

P. A. N. S., (152) vol. xi, 1859, p. 153; J. A. N. S., (168) vol. iv, 1859, p. 242, pl. xxxvi, f. 121; Obs. Gen. Unio, (170) vol. vii, p. 60, pl. xxxvi, f. 121.

U. Shepardianus.

T. A. P. S., (20) vol. v, 1833, p. 95, pl. xiii, f. 38; (27) vol. vi, 1834, p. 8; 1836, p. 38; 1838, pp. 131, 147; (54) vol. ix, 1843, p. 289; P. A. N. S., (135) vol. x, 1858, p. 13; J. A. N. S., (221) vol. v, 1863, p. 415; Obs. Gen. Unio, (21) vol. i, p. 207, pl. xiii, f. 38; (29) vol. ii, pp. 8, 38, 131, 147; (56) vol. iv, p. 280; (222) vol. x, p. 51.

U. Showalterii.

P. A. N. S., (186) vol. xii, 1860, p. 307; J. A. N. S., (203) vol. v, 1861, p. 73, pl. viii, f. 223; Obs. Gen. Unio, (205) vol. viii, p. 77, pl. viii, f. 223.

U. Shurtleffianus.

P. A. N. S., (110) vol. viii, 1856, p. 94; J. A. N. S., (133) vol. iii, 1857, pp 302, 303, pl. xxvii, f. 17; (220) vol. v, 1863, p. 298; Obs. Gen. Unio, (150) vol. vi, p. 22, pl. xxvii, f. 17; (222) vol. x, p. 34.

Unio Shuttleworthii.
P. A. N. S., (110) vol. viii, 1856, p. 94; J. A. N. S., (133) vol. iii, 1857, p. 304, pl. xxviii, f. 19; Obs. Gen. Unio, (150) vol. vi, p. 24, pl. xxv, f. 19.

U. Siamensis.
J. A. N. S., (257) vol. vi, 1868, p. 279, pl. xxxviii, f. 93; Obs. Gen. Unio, (259) vol. xii, p. 39, pl. xxxviii, f. 93.

U. Sikkimensis.
P. A. N. S., (152) vol. xi, 1859, p. 151; J. A. N. S, (168) vol. iv, 1859, p. 251, pl. xxxix, f. 131; Obs. Gen. Unio, (170) vol. vii, p. 69, pl. xxxix, f. 131.

U. siliquoideus.
T. A. P. S., (12) vol. iii, 1829, pp. 407, 409, 411, 414, 415, 419; (20) vol. v, 1833, p. 91; 1834, p. 101; (27) vol. vi, 1834, p. 15; 1836, p. 34; 1838, p. 127; Obs. Gen. Unio, (21) vol. i, pp. 21, 23, 25, 28, 29, 33, 203, 213; (29) vol. ii, pp. 15, 34, 127.

U. similis.
P. A. N. S., (129) vol. ix, 1857, p. 169; J. A. N. S., (148) vol. iv, 1858, p. 91, pl. xix, f. 71; (159) vol. iv, 1859, p. 195; Obs. Gen. Unio, (150) vol. vi, p. 91, pl. xix, f. 71; (170) vol. vii, p. 13.

U. simplex.
T. A. P. S., (55) vol. x, 1845, pp. 73, 76, pl. v, f. 15; Obs. Gen. Unio, (56) vol. iv, pp. 73, 76, pl. v, f. 15.

U. simulans.
J. A. N. S., (273) vol. viii, 1874, pl. v, f. 15; Obs. Gen. Unio, (275) vol. xiii, p. 22, pl. v, f. 15.

U. simus.
T A. P. S., (27) vol. vi, 1836, p. 26, pl. viii, f. 20; 1838, pp. 129, 147; J. A. N. S., (202) vol. v, 1861, p. 81; Obs. Gen. Unio, (29) vol. ii, pp. 26, 129, 147, pl. viii, f. 20; (205) vol. viii, p. 85.

U. sintoxia.
T. A. P. S., (27) vol. vi, 1838, pp. 125, 144; Obs. Gen. Unio, (29) vol. ii, pp. 125, 144.

U. sinuata.
T. A. P. S., (12) vol. iii, 1829, p. 421; (20) vol. v, 1833, p. 86; (27) vol. vi, 1838, pp. 128, 134, 136, 144; Obs. Gen. Unio, (21) vol. i, pp. 35, 198; (29) vol. ii, pp. 128, 134, 136, 144.

U. Sloatianus.
P. A. P. S., (35) vol. i, 1840, p. 287; T. A. P. S., (43) vol. viii, 1840, p. 217, pl. xvi, f. 33; J. A. N. S., (221) vol. v, 1863, p. 408; Obs. Gen. Unio, (44) vol. iii, p. 55, pl. xvi, f. 33; (222) vol. x, p. 44.

U. Smithii.
T. A. P. S., (27) vol. vi, 1838, pp. 128, 148; Obs. Gen. Unio, (29) vol. ii, pp. 128, 148.

U. Solandri.
T. A. P. S., (27) vol. vi, 1838, pp. 134, 151; Obs. Gen. Unio, (29) vol. ii, pp. 134, 151.

U. soleniformis.
T. A. P. S., (15) vol. iv, 1830, pp. 75, 87, pl. x, f. 17, 1831, p. 106; (20) vol. v, 1832, p. 37; (27) vol. vi, 1838, pp. 128, 134; J. A. N. S., (221) vol. v, 1863, p. 422; Obs. Gen. Unio, (21) vol. i, pp. 85, 97, 116, 149, pl. x, f. 17; (29) vol. ii, pp. 128, 134; (222) vol. x, p. 58.

Unio Soladoensis.
J. A. N. S., (242) vol. vi, 1866, p. 8; Obs. Gen. Unio, (244) vol. xi, p. 12.

U. solenoides.
T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

U. solidus.
T. A. P. S., (27) vol. vi, 1834, p. 13, pl. v, f. 13; 1838, pp. 125, 147; J. A. N. S., (203) vol. v, 1861, p. 73; (221) vol. v, 1863, p. 429; (242) vol. vi, 1866, p. 27; Obs. Gen. Unio, (29) vol. ii, pp. 13, 125, 147, pl. v, f. 13; (205) vol. viii, p. 77; (222) vol. x, p. 65; (244) vol. xi, p. 31.

U. Solisiana.
T. A. P. S., (27) vol. vi, 1838, p. 131; Obs. Gen. Unio, (29) vol. ii, p. 131.

U. sordidus.
P. A. P. S., (93) vol. v, 1852, p. 252; T. A. P. S., (79) vol. x, 1852, p. 254, pl. xii, f. 1; J. A. N. S., (189) vol. iv, 1860, p. 332; Obs. Gen. Unio, (88) vol. v, p. 10, pl. xii, f. 1; (205) vol. viii, p. 14.

U. Sowerbianus.
T. A. P. S., (20) vol. v, 1833, p. 68, pl. x, f. 28; (27) vol. vi, 1838, pp. 125, 147; Obs. Gen. Unio, (21) vol. i, p. 180, pl. x, f. 28; (29) vol. ii, pp. 125, 147.

U. spadiceus.
P. A. N. S., (123) vol. ix, 1857, p. 86; J. A. N. S., (189) vol. iv, 1860, p. 330; (203) vol. v, 1861, p. 55, pl. i, f. 201; Obs. Gen. Unio, (205) vol. viii, pp. 12, 59, pl. i, f. 201.

U. sparsus.
P. A. P. S., (40) vol. ii, 1841, p. 82; T. A. P. S., (43) vol. viii, 1841, p. 242; (79) vol. x, 1852, p. 277; Obs. Gen. Unio, (44) vol. iii, p. 80, pl. xxv, f. 58; (83) vol. v, p. 33.

U. sparus.
J. A. N. S., (258) vol. vi, 1868, p. 306, pl. xlvii, f. 119; Obs. Gen. Unio, (259) vol. xii, p. 66, pl. xlvii, f. 119.

U. spatulatus.
T. A. P. S., (55) vol. x, 1845, p. 80, pl. viii, f. 22; J. A. N. S., (147) vol. iv, 1858, p. 47, pl. v, f. 9; (221) vol. v, 1863, p. 424; Obs. Gen. Unio, (56) vol. iv, p. 80, pl. viii, f. 22; (150) vol. vi, p. 47, pl. v, f. 9; (222) vol. x, p. 60.

U. speciosus.
J. A. N. S., (213) vol. v, 1862, p. 207, pl. xxxi, f. 276; Obs. Gen. Unio, (215) vol. ix, p. 29, pl. xxxi, f. 276.

U. sphæricus.
J. A. N. S., (258) vol. vi, 1868, p. 319, pl. li, f. 132; Obs. Gen. Unio, (259) vol. xii, p. 79, pl. li, f. 132.

U. Spillmanii.
P. A. N. S., (192) vol. xiii, 1861, p. 39; J. A. N. S., (203) vol. v, 1861, p. 98, pl. xv, f. 246; Obs. Gen. Unio, (205) vol. viii, p. 102, pl. xv, f. 246.

U. spinosus.
T. A. P. S., (27) vol. vi. 1836, pp. 57, 71, pl. xvi, f. 50; 1838, pp. 119, 147, 124; P. A. N. S., (124) vol. ix, 1857, p. 101; (135) vol. x, 1858, p. 13; J. A. N. S., (168) vol. iv, 1859, p. 244; (221) vol. v, 1863, p. 413; Obs. Gen. Unio, (29) vol. ii, pp. 57, 71, 119, 124, 147, pl. xvi, f. 50; (170) vol. vii, p. 62; (222) vol. x, p. 49.

Unio spissus.

P. A. N. S., (151) vol. xi, 1859, p. 112; J. A. N. S., (159) vol. iv, 1859, p. 208, pl. xxv, f. 89; Obs. Gen. Unio, (170) vol. vii, p. 26, pl. xxv, f. 89.

U. splendidus.

T. A. P. S., (27) vol. vi, 1836, p. 70, pl. xix, f. 61; 1838, pp. 126, 147; J. A. N. S., (221) vol. v, 1863, p. 414; Obs. Gen. Unio, (29) vol. ii, pp. 70, 126, 147, pl. xix, f. 61; (222) vol. x, p. 50.

U. spuria.

T. A. P. S., (12) vol. iii, 1829, p. 425; (20) vol. v, 1833, p. 92; (27) vol. vi, 1838, p. 129; Obs. Gen. Unio, (21) vol. i, pp. 39, 204; (29) vol. ii, p. 129.

U. squalidus.

J. A. N. S., (242) vol. vi, 1866, p. 22, pl. vii, f. 20; Obs. Gen. Unio, (244) vol. xi, p. 26, pl. vii, f. 20.

U. squameus.

P. A. N. S., (200) vol. xiii, 1861, p. 391; J. A. N. S., (213) vol. v, 1862, p. 200, pl. xxviii, f. 269; Obs. Gen. Unio, (215) vol. ix, p. 22, pl. xxviii, f. 269.

U. stabilis.

P. A. N. S., (196) vol. xii, 1861, p. 59; J. A. N. S., (203) vol. v, 1861, p. 71, pl. viii, f. 221; Obs. Gen. Unio, (205) vol. viii, p. 75, pl. viii, f. 221.

U. stapes.

T. A. P. S., (15) vol. iv, 1830, p. 77, pl. vii, f. 8; (27) vol. vi, 1838, pp. 123, 147; Obs. Gen. Unio, (21) vol. i, p. 87, pl. vii, f. 8; (29) vol. ii, pp. 123, 147.

U. stegarius.

T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

U. Stevensii.

J. A. N. S., (273) vol. viii, 1874, p. 22, pl. vii, f. 19; Obs. Gen. Unio, (275) vol. xiii, p. 26, pl. vii, f. 19.

U. Stewardsonii.

P. A. P. S., (93) vol. v, 1852, p. 252; T. A. P. S., (79) vol. x, 1852, p. 278, pl. xxiii, f. 36; J. A. N. S., (203) vol. v, 1861, p. 65; (242) vol. vi, 1866, p. 48; Obs. Gen. Unio, (83) vol. v, p. 34, pl. xxiii, f. 36; (205) vol. viii, p. 69; (244) vol. xi, p. 52.

U. Stewartiana.

J. A. N. S., (242) vol. vi, 1866, p. 26; Obs. Gen. Unio, (244) vol. xi, p. 30.

U. Stonensis.

P. A. P. S., (35) vol. i, 1840, p. 286; T. A. P. S., (43) vol. viii, 1840, p. 195, pl. viii, f. 5; J. A. N. S., (148) vol. iv, 1858, p. 90; (159) vol. iv, 1859, p. 195; Obs. Gen. Unio, (44) vol. iii, p. 33; (150) vol. vi, p. 90; (170) vol. vii, p. 11.

U. stramineus.

T. A. P. S., (27) vol. vi, 1838, pp. 133, 147; (43) vol. viii, 1840, p. 200; (54) vol. ix, 1843, p. 282; (55) vol. x, 1845, p. 79; J. A. N. S., (159) vol. iv, 1859, p. 223, pl. xxx, f. 106; Obs. Gen. Unio, (29) vol. ii, pp. 133, 147; (44) vol. iii, p. 38; (56) vol. iv, pp. 79, 282; (170) vol. vii, p. 41, pl. xxx, f. 106.

Unio Strebelii.

J. A. N. S., (258) vol. vi, 1868, p. 318, pl. li, f. 131; Obs. Gen. Unio, (259) vol. xii, p. 78, pl. li, f. 131.

U. striatulus.

P. A. N. S., (123) vol. ix, 1857, p. 86; J. A. N. S., (203) vol. v, 1861, p. 55, pl. ii, f. 202; (221) vol. v, 1863, p. 421; Obs. Gen. Unio, (205) vol. viii, p. 59, pl. ii, f. 202; (222) vol. x, p. 57.

U. striatus.

T. A. P. S., (27) vol. vi, 1838, p. 144; (43) vol. viii, 1840, p. 203, pl. xii, f. 16; P. A. P. S., (35) vol. i, 1840, p. 287; J. A. N. S., (203) vol. v, 1861, p. 82; (221) vol. v, 1863, p. 418; Obs. Gen. Unio, (29) vol. ii, p. 144; (44) vol. iii, p. 41, pl. xii, f. 16; (205) vol. viii, p. 86; (222) vol. x, p. 54.

U. strigosus.

P. A. P. S., (35) vol. i, 1840, p. 287; T. A. P. S., (43) vol. viii, 1840, p. 198, pl. ix, f. 9; (79) vol. x, 1852, p. 256; J. A. N. S., (159) vol. iv, 1859, p. 215; (221) vol. v, 1863, p. 411; Obs. Gen. Unio, (44) vol. iii, p. 36, pl. ix, f. 9; (83) vol. v, p. 12; (170) vol. vii, p. 33; (222) vol. x, p. 47.

U. strumosus.

J. A. N. S., (274) vol. viii. 1874, p. 57, pl. xix, f. 55; Obs. Gen. Unio, (275) vol. xiii, p. 61, pl. xix, f. 55.

U. suavidicus.

P. A. N. S., (110) vol. viii, 1856, p. 95; J. A. N. S., (133) vol. iii, 1857, p. 309, pl. xxix, f. 24; Obs. Gen. Unio, (150) vol. vi, p. 29, pl. xxix, f. 24.

U. subangulatus.

P. A. P. S., (35) vol. i, 1840, p. 287; T. A. P. S., (43) vol. viii, 1840, p. 209, pl. xiii, f. 23; J. A. N. S., (147) vol. iv, 1858, p. 50, pl. v, f. 39; (168) vol. iv, 1859, p. 259; (221) vol. v, 1863, p. 408; Obs. Gen. Unio, (44) vol. iii, p. 47, pl. xiii, f. 23; (150) vol. vi, p. 50, pl. v, f. 39; (170) vol. vii, p. 77; (222) vol. x, p. 44.

U. subconstrictus.

T. A. P. S., (27) vol. vi, 1838, pp. 134, 151; Obs. Gen. Unio, (29) vol. ii, pp. 134, 151.

U. subcylindraceus.

J. A. N. S., (274) vol. viii, 1874, p. 58, pl. xx, f. 57; Obs. Gen. Unio, (275) vol. xiii, p. 62, pl. xx, f. 57.

U. subellipsis.

P. A. N. S., (116) vol. viii, 1856, p. 262; J. A. N. S., (148) vol. iv, 1858, pp. 62, 67, 77, pl. x, f. 44; (189) vol. iv, 1860, p. 328; Obs. Gen. Unio, (150) vol. vi, pp. 62, 67, 77, pl. x, f. 44; (205) vol. viii, p. 10.

U. subflavus.

P. A. N. S., (129) vol. ix, 1857, p. 170; J. A. N. S., (148) vol. iv, 1858, p. 90, pl. xix, f. 70; (159) vol. iv, 1859, p. 197; (242) vol. vi, 1866, p. 23; Obs. Gen. Unio, (150) vol. vi, p. 90, pl. xix, f. 70; (170) vol. vii, p. 15; (244) vol. xi, p. 27.

U. subgibbosus.

P. A. N. S., (129) vol. ix, 1857, p. 169; J. A. N. S., (148) vol. iv, 1858, p. 53, pl. vi, f. 36;

Unio subgibbosus—Continued.
(213) vol. v, 1862, p. 204; (221) vol. v, 1863, p. 443; Obs. Gen. Unio, (150) vol. vi, p. 53, pl. vi, f. 36; (215) vol. ix, p. 26; (222) vol. x, p. 79.

U. subglobatus.
J. A. N. S., (273) vol. viii, 1874, p. 7, pl. i, f. 3; Obs. Gen. Unio, (275) vol. xiii, p. 11, pl. i, f. 3.

U. subglobosus.
T. A. P. S., (20) vol. v, 1832, pp. 30, 89, pl. ii, f. 3; (27) vol. vi, 1838, p. 131; Obs. Gen. Unio, (21) vol. i, pp. 142, 201, pl. ii, f. 3.

U. sublatus.
P. A. N. S., (129) vol. ix, 1857, p. 169; J. A. N. S., (148) vol. iv, 1858, p. 82, pl. xvi, f. 62; Obs. Gen. Unio, (150) vol. vi, p. 82, pl. xvi, f. 62.

U. subniger.
P. A. N. S., (129) vol. ix, 1857, p. 172; J. A. N. S., (159) vol. iv, 1859, p. 196, pl. xxii, f. 79; Obs. Gen. Unio, (170) vol. vii, p. 14, pl. xxii, f. 79.

U. subolivaceus.
J. A. N. S., (274) vol. viii, 1874, p. 58, pl. xx, f. 56; Obs. Gen. Unio, (275) vol. xiii, p. 61, pl. xx, f. 56.

U. suborbiculata.
T. A. P. S., (12) vol. iii, 1829, p. 425; (20) vol. v, 1833, pp. 89, 92; (27) vol. v, 1838, p. 131; Obs. Gen. Unio, (21) vol. i, pp. 39, 201, 204; (29) vol. ii, p. 131.

U. subovatus.
T. A. P. S., (15) vol. iv, 1831, p. 118, pl. xviii, f. 46; (27) vol. vi, 1838, pp. 125, 147; Obs. Gen. Unio, (21) vol. i, p. 128, pl. xviii, f. 46; (29) vol. ii, pp. 125, 147.

U. subparallellus.
J. A. N. S., (273) vol. viii, 1874, p. 46, pl. xvi, f. 44; Obs. Gen. Unio, (275) vol. xiii, p. 50, pl. xvi, f. 44.

U. subrostratus.
T. A. P. S., (27) vol. vi, 1838, pp. 132, 133; Obs. Gen. Unio, (29) vol. ii, pp. 132, 133.

U. subrotundus.
T. A. P. S., (15) vol. iv, 1831, p. 117, pl. xviii, f. 45; (20) vol. v, 1832, pp. 35, 99; (27) vol. vi, 1838, pp. 131, 144, 147; (43) vol. viii, 1840, pp. 196, 210; J. A. N. S., (221) vol. v, 1863, pp. 417, 427, 432; Obs. Gen. Unio, (21) vol. i, pp. 127, 147, 211, pl. xviii, f. 45; (29) vol. ii, pp. 131, 144, 147; (44) vol. iii, pp. 34, 48; (222) vol. x, pp. 53, 63, 66.

U. subsquamosus.
J. A. N. S., (273) vol. viii, 1874, p. 47, pl. xvi, f. 45; Obs. Gen. Unio, (275) vol. xiii, p. 51, pl. xvi, f. 45.

U. substriatus.
P. A. N. S., (110) vol. viii, 1856, p. 93; J. A. N. S., (133) vol. iii, p. 300, pl. xxvi, f. 14; Obs. Gen. Unio, (150) vol. vi, p. 20, pl. xxvi, f. 14.

U. subtentus.
T. A. P. S., (12) vol. iii, 1829; pp. 409, 412, 417; (20) vol. v, 1833, p. 63; (27) vol. vi, 1838, pp. 122, 147; (43) vol. viii, 1840, p. 202; Obs. Gen. Unio, (21) vol. i, pp. 23, 26, 31, 175; (29) vol. ii, pp. 122, 147; (44) vol. iii, p. 40.

U. subtetragonus.
T. A. P. S., (27) vol. vi, 1838, p. 130; Obs. Gen. Unio, (29) vol. ii, p. 130.

Unio succissus.
P. A. P. S., (93) vol. v, 1852, p. 252; T. A. P. S., (79) vol. x, 1852, p. 275, pl. xxi, f. 32; Obs. Gen. Unio, (83) vol. v, p. 31, pl. xxi, f. 32; (205) vol. viii, p. 27; J. A. N. S., (189) vol. iv, 1860, p. 345.

U. sudus.
P. A. N. S., (129) vol. ix, 1857, p. 170; J. A. N. S., (159) vol. iv, 1859, p. 194, pl. xxi, f. 77; (274) vol. viii, 1874, p. 69, pl. xxi, f. 7; Obs. Gen. Unio, (170) vol. vii, p. 12, pl. xxi, f. 77; (275) vol. xiii, p. 73, pl. xxi, f. 7.

U. sulcatus.
T. A. P. S., (12) vol. iii, 1829, pp. 409, 411, 420, 430, pl. viii, f. 12; (15) vol. iv, 1831; pp. 117, 120; (20) vol. v, 1835, p. 35; (27) vol. vi, 1836, p. 50; 1838, pp. 126, 147; (43) vol. viii, 1841, p. 231; J. A. N. S., (213) vol. v, 1862, p. 193; (221) vol. v, 1863, p. 442; Obs. Gen. Unio, (21) vol. i, pp. 23, 25, 34, 44, 127, 130, 147; (29) vol. ii, pp. 50, 126, 147; (44) vol. iii, p. 69; (215) vol. ix, p. 15; (222) vol. x, p. 78.

U. sulcidens.
T. A. P. S., (12) vol. iii, 1829, pp. 416, 424; (20) vol. v, 1833, p. 90; (27) vol. vi, 1838, p. 130; Obs. Gen. Unio, (21) vol. i, pp. 30, 38, 202; (29) vol. ii, p. 130.

U. Sumatrensis.
P. A. N. S., (152) vol. xi, 1859, p. 153; J. A. N. S., (168) vol. iv, 1859, p. 239, pl. xxxiv, f. 118; (242) vol. vi, 1866, p. 63; Obs. Gen. Unio, (170) vol. vii, p. 57, pl. xxxiv, f. 118; (244) vol. xi, p. 67.

U. superbus.
T. A. P. S., (54) vol. ix, 1843, p. 281, pl. xlii, f. 11; J. A. N. S., (133) vol. iii, 1857, pp. 289, 293, 309; Obs. Gen. Unio, (56) vol. iv, p. 281, pl. xlii, f. 11; (150) vol. vi, pp. 9, 13, 29.

U. symmetricus.
T. A. P. S., (55) vol. x, 1845, p. 73, pl. iv, f. 11; J. A. N. S., (148) vol. iv, 1858, p. 76; Obs. Gen. Unio, (56) vol. iv, p. 73, pl. iv, f. 11; (150) vol. vi, p. 76.

U. Syriacus.
J. A. N. S., (242) vol. vi, 1866, p. 56, pl. xix, f. 53; Obs. Gen. Unio, (244) vol. xi, p. 60, pl. xix, f. 53.

U. syrmatophorus.
T. A. P. S., (27) vol. vi, 1838, pp. 121, 148; Obs. Gen. Unio, (29) vol. ii, pp. 121, 148.

U. tæniatus.
T. A. P. S., (27) vol. vi, 1838, pp. 127, 147; Obs. Gen. Unio, (29) vol. ii, pp. 127, 147.

U. Taitianus.
T. A. P. S., (20) vol. v, 1832, p. 39, pl. iv, f. 11; (27) vol. vi, 1838, pp. 126, 147; Obs. Gen. Unio, (21) vol. i, p. 39, pl. iv, f. 11; (29) vol. ii, pp. 126, 147.

U. Tampicoensis.
T. A. P. S., (27) vol. vi, 1836, p. 24, pl. vii, f. 18; (27) vol. vi, 1838, pp. 126, 147; J. A. N. S., (133) vol. iii, 1857, pp. 312, 315; Obs. Gen. Unio, (29) vol. ii, pp. 24, 126, 147, pl. vii, f. 18; (150) vol. vi, pp. 32, 35.

Unio Tappanianus.

T. A. P. S., (27) vol. vi, 1836, pp. 62, 75, pl. xvii, f. 55; 1838, pp. 133, 147; J. A. N. S., (242) vol. vi, 1866, p. 8; (274) vol. viii, 1874, pp. 67, 69, pl. xxi, f. 14; Obs. Gen. Unio, (29) vol. ii, pp. 62, 75, pl. xvii, f. 55; 1838, pp. 133, 147; (244) vol. xi, p. 12; (275) vol. xiii, pp. 71, 73, pl. xxi, f. 14.

U. Tavoyensis.

J. A. N. S., (133) vol. iii, 1857, pp. 292, 294; Obs. Gen. Unio, (150) vol. vi, pp. 12, 14.

U. Tecomatensis.

P. A. P. S., (39) vol. ii, 1841, p. 30; T. A. P. S., (43) vol. viii, 1841, p. 234, pl. xxi, f. 48; J. A. N. S., (189) vol. iv, 1860, p. 370; Obs. Gen. Unio, (44) vol. iii, p. 72, pl. xxi, f. 48; (205) vol. viii, p. 52.

U. Tellicoensis.

J. A. N. S., (273) vol. viii, 1874, p. 31, pl. x, f. 28; Obs. Gen. Unio, (275) vol. xiii, p. 35, pl. x, f. 28.

U. tenebricus.

P. A. N. S., (129) vol. ix, 1857, p. 171; J. A. N. S., (148) vol. iv, 1858, p. 83, pl. xvii, f. 63; Obs. Gen. Unio, (150) vol. vi, p. 83, pl. xvii, f. 63.

U. tenebrosus.

T. A. P. S., (27) vol. vi, 1838, p. 133; Obs. Gen. Unio, (29) vol. ii, p. 133.

U. teneltus.

T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

U. tener.

P. A. P. S., (35) vol. i, 1840, p. 286; T. A. P. S., (43) vol. viii, 1840, p. 198, pl. x, f. 10; J. A. N. S., (189) vol. iv, 1860, pp. 346, 353; Obs. Gen. Unio, (44) vol. iii, p. 36, pl. x, f. 10; (205) vol. viii. pp. 28, 35.

U. tenerus.

T. A. P. S., (27) vol. vi, 1838, pp. 133, 147; J. A. N. S., (221) vol. v, 1863, p. 415; Obs. Gen. Unio, (29) vol. ii, pp. 133, 147; (222) vol. x, p. 51.

U. Tennesseeensis.

P. A. P. S., (35) vol. i, 1840, p. 288; T. A. P. S., (43) vol. viii, 1840, p. 199, pl. x, f. 11; Obs. Gen. Unio, (44) vol. iii, p. 37, pl. x, f. 11.

U. tenuis.

T. A. P. S., (27) vol. vi, 1838, p. 136; Obs. Gen. Unio, (29) vol. ii, p. 136.

U. tenuissimus.

T. A. P. S., (27) vol. vi, 1838, pp. 133, 147; (43) vol. viii, 1841, p. 231; J. A. N. S., (221) vol. v, 1863, p. 441; Obs. Gen. Unio, (29) vol. ii, pp. 133, 147; (44) vol. iii, p. 69; (222) vol. x, p. 77.

U. teres.

T. A. P. S., (27) vol. vi, 1838, p. 132; Obs. Gen. Unio, (29) vol. ii, p. 132.

U. terrenus.

T. A. P. S., (27) vol. vi, 1838, pp. 134, 151; Obs. Gen. Unio, (29) vol. ii, pp. 134, 151.

U. tesserulæ.

P. A. N. S., (200) vol. xiii, 1861, p. 392; J. A. N. S., (242) vol. vi, 1866, p. 40, pl. xv, f. 39; Obs. Gen. Unio, (244) vol. xi, p. 44, pl. xv, f. 39.

Unio tetragona.

J. A. N. S., (242) vol. vi, 1866, p. 25; Obs. Gen. Unio, (244) vol. xi, p. 29.

U. tetralasmus.

T. A. P. S., (27) vol. vi, 1838, pp. 129, 147; (55) vol. x, 1845, p. 74; Obs. Gen. Unio, (29) vol. ii, pp. 129, 147; (56) vol. iv, p. 74.

U. tetrieus.

P. A. N. S., (129) vol. ix, 1857, p. 170; J. A. N. S., (159) vol. iv, 1859, pp. 195, 199, pl. xxii, f. 78; Obs. Gen. Unio, (170) vol. vii, pp. 13, 17, pl. xxii, f. 78.

U. Texasensis.

P. A. N. S., (121) vol. ix, 1857, p. 84; J. A. N. S., (189) vol. iv, 1860, pp. 357, 359, 362, pl. lxi, f. 184; (213) vol. v, 1862, p. 205; Obs. Gen. Unio, (205) vol. viii, pp. 39, 41, 44, pl. lxi, f. 184; (215) vol. ix, p. 27.

U. Thorntonii.

P. A. N. S., (120) vol. iv, 1857, p. 83; J. A. N. S., (242) vol. vi, 1866, pp. 38, 39, 40; Obs. Gen. Unio, (244) vol. xi, pp. 42, 43, 44, pl. xiv, f. 36.

U. Thwaitsii.

P. A. N. S., (152) vol. xi, 1859, p. 452; J. A. N. S., (168) vol. iv, 1859, p. 246, pl. xxxvii, f. 125; Obs. Gen. Unio, (170) vol. vii, p. 64, pl. xxxvii, f. 125.

U. Tigridis.

J. A. N. S., (242) vol. vi, 1866, p. 52; Obs. Gen. Unio, (244) vol. xi, p. 56.

U. Tigris.

T. A. P. S., (27) vol. vi, 1838, pp. 126, 145; J. A. N. S., (133) vol. iii, 1857, p. 296; (242) vol. vi, 1866, pp. 52, 62; Obs. Gen. Unio, (29) vol. ii, pp. 126, 145; (150) vol. vi, p. 16; (244) vol. xi, pp. 56, 66.

U. Topekaensis.

J. A. N. S., (258) vol. vi, 1868, p. 313, pl. xlix, f. 126; Obs. Gen. Unio, (259) vol. xii, p. 73, pl. xlix, f. 126.

U. torsus.

T. A. P. S., (12) vol. iii, 1829, pp. 409, 412, 418, 434; (15) vol. iv, 1830, p. 77; (20) vol. v, 1833, p. 88; (27) vol. vi, 1838, p. 131; Obs. Gen. Unio, (21) vol. i, pp. 23, 26, 32, 48, 87, 200; (29) vol. ii, p. 131.

U. tortivus.

P. A. P. S., (35) vol. i, 1840, p. 287; T. A. P. S., (213) vol. viii, 1840, p. 204, pl. xii, f. 17; J. A. N. S., (159) vol. iv, 1859, p. 196, 199, 214; (221) vol. v, 1863, p. 409; (274) vol. viii, 1874, p. 69, pl. xxi, f. 12; Obs. Gen. Unio, (44) vol. iii, p. 42, pl. xii, f. 17; (170) vol. vii, pp. 14, 17, 32; (222) vol. x, p. 45; (275) vol. xiii, p. 73, pl. xxi, f. 12.

U. tortuosus.

P. A. N. S., (234) vol. xvii, 1865, p. 76; J. A. N. S., (257) vol. vi, 1868, p. 287, pl. xxxix, f. 98; Obs. Gen. Unio, (259) vol. xii, p. 46, pl. xxxix, f. 98.

U. torulosa.

T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

U. trabalis.

T. A. P. S., (27) vol. vi, 1838, p. 126; Obs. Gen. Unio, (29) vol. ii, p. 126.

Unio trapezialis.
J. A. N. S., (220) vol. v, 1863, p. 387; Obs. Gen. Unio, (222) vol. x, p. 23.

U. trapezium.
T. A. P. S., (27) vol. vi, 1838, p. 129; Obs. Gen. Unio, (29) vol. ii, p. 129.

U. trapezoides.
T. A. P. S., (15) vol. iv, 1830, p. 69, pl. iii, f. 1; (20) vol. v, 1833, pp. 87, 96; (27) vol. vi, 1838, pp. 122, 125, 147; J. A. N. S., (133) vol. iii, 1857, p. 315; (203) vol. v, 1861, p. 61; (221) vol. v, 1863, p. 436; Obs. Gen. Unio, (21) vol. i, pp. 79, 199, 208, pl. iii, f. 1; (29) vol. ii, pp. 122, 125, 147; (150) vol. vi, p. 35; (205) vol. viii, p. 65; (222) vol. x, p. 72.

U. Trautwiniana.
J. A. N. S., (168) vol. iv, 1859, p. 267; Obs. Gen. Unio, (170) vol. vii, p. 85.

U. triangularis.
T. A. P. S., (12) vol. iii, 1829, pp. 406, 409, 419, 430, 443; (15) vol. iv, 1830, p. 76; 1831, pp. 112, 116; (20) vol. v, 1832, p. 25; (27) vol. vi, 1836, pp. 50, 55, 72; 1838, pp. 119, 120, 124, 125, 144, 147; (43) vol. viii, 1841, p. 231; J. A. N. S., (147) vol. iv, 1858, p. 48, pl. v, f. 19; (221) vol. v, 1863, pp. 420, 448; (242) vol. vi, 1866, p. 17; Obs. Gen. Unio, (21) vol. i, pp. 20, 23, 26, 33, 44, 57, 86, 122, 126, 137; (29) vol. ii, pp. 50, 55, 72, 119, 120, 124, 125, 126, 144, 147; (44) vol. iii, p. 69; (150) vol. vi, p. 48, pl. v, f. 19; (222) vol. x, pp. 56, 94; (244) vol. x, p. 21.

U. trifidus.
P. A. N. S., (175) vol. xii, 1860, p. 89; J. A. N. S., (220) vol. v, 1863, p. 386, pl. xliv, f. 295; (242) vol. vi, 1866, p. 58; Obs. Gen. Unio, (222) vol. x, p. 22, pl. xliv, f. 295; (244) vol. xi, p. 62.

U. trigonus.
T. A. P. S., (15) vol. iv, 1831, p. 110, pl. xvi, f. 40; (20) vol. v, 1833, p. 69; (27) vol. vi, 1836, pp. 55, 73; 1838, pp. 125, 148; (43) vol. viii, 1841, pp. 212, 231; (55) vol. x, 1845, p. 71; J. A. N. S., (203) vol. v, 1861, p. 91; (213) vol. v, 1862, pp. 197, 199; (221) vol. v, 1863, p. 428; Obs. Gen. Unio, (21) vol. i, pp. 120, 181, pl. xvi, f. 40; (29) vol. ii, pp. 55, 73, 125, 148; (44) vol. iii, pp. 50, 69; (56) vol. iv, p. 71; (205) vol. viii, p. 95; (215) vol. ix, pp. 19, 21; (222) vol. x, p. 64.

U. trinacrus.
P. A. N. S., (196) vol. xiii, 1861, p. 59; J. A. N. S., (203) vol. v, 1861, p. 86, pl. xii, f. 235; Obs. Gen. Unio, (205) vol. viii, p. 90, pl. xii, f. 235; also errata.

U. tripartitus.
J. A. N. S., (242) vol. vi, 1866, p. 57, pl. xix, f. 55; Obs. Gen. Unio, (244) vol. xi, p. 61, pl. xix, f. 55.

U. triqueter.
T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

U. triradiatus.
T. A. P. S., (27) vol. vi, 1838, p. 129; Obs. Gen. Unio, (29) vol. ii, p. 129.

U. Troschelianus.
P. A. P. S., (93) vol. v, 1852, p. 252; T. A. P. S., (79) vol. x, 1852, p. 280, pl. xxiii, f. 39; J. A. N. S., (159) vol. iv, 1859, p. 220; Obs. Gen. Unio, (83) vol. v, p. 36, pl. xxiii, f. 39; (170) vol. vii, p. 38.

U. Troostensis.
T. A. P. S., (20) vol. v, 1833, p. 71, pl. x, f. 30; (27) vol. vi, 1838, pp. 126, 148; (54) vol. ix, 1843, p. 278; Obs. Gen. Unio, (21) vol. i, p. 183, pl. x, f. 30; (29) vol. ii, pp. 126, 148; (56) vol. iv, p. 278.

U. Troostii.
J. A. N. S., (242) vol. vi, 1866, p. 47; Obs. Gen. Unio., (244) vol. xi, p. 51.

U. trossulus.
T. A. P. S., (54) vol ix, 1843, p. 278, pl. xl, f. 6; Obs. Gen. Unio., (56) vol. iv., p. 278, pl. xl, f. 6.

U. truncatus.
T. A. P. S., (15) vol. iv, 1830, p. 93; (27) vol. vi, 1838, pp. 124, 126, 134, 144, 148, 151; J. A. N. S., (242) vol. vi, 1866, p. 52; Obs. Gen. Unio, (21) vol. i, p. 103; (29) vol. ii, pp. 124, 126, 134, 144, 148, 151; (244) vol. xi, p. 56.

U. tuberculatus.
T. A. P. S., (12) vol. iii, 1829, pp. 409, 410, 412, 419; (15) vol. iv, 1830, pp. 64, 65, 71, 86; (27) vol. vi, 1836, p. 56; 1838, pp. 123, 124, 148; (43) vol. viii, 1841, p. 231; P. A. P. S., (66) vol. v, 1851, pp. 192, 193; J. A. N. S., (221) vol. v, 1863, p. 425; (242) vol. vi, 1866, p. 27; Obs. Gen. Unio, (21) vol. i, pp 23, 24, 26, 33, 74, 75, 81, 96; (29) vol. ii, pp. 56, 123, 124, 148; (44) vol. iii, p. 69; (222) vol. x, p. 61; (244) vol. xi, p. 31.

U. tuberculosa.
T. A. P. S., (12) vol. iii, 1829, p. 419; Obs. Gen. Unio., (21) vol. i, p. 33.

U. tuberosus.
P. A. P. S., (35) vol. i, 1840, p. 286; T. A. P. S., (43) vol. viii, 1840, pp. 212, 243, pl. xiv, f. 25; (79) vol. x, 1852, p. 277; Obs. Gen. Unio., (44) vol. iii, pp. 48, 81, pl. xiv, f. 25; (83) vol. v, p. 33.

U. tumescens.
T. A. P. S., (55) vol. x, 1845, pp. 71, 73, pl. iii, f. 7; Obs. Gen. Unio, (56) vol. iv, pp. 71, 73, pl. iii, f. 7.

U. tumida.
T. A. P. S., (12) vol. iii, 1829. p. 424; (27) vol. vi, 1838, p. 132; Obs. Gen. Unio, (29) vol. i, pp. 38, 132.

U. tumidulus.
P. A. N. S., (110) vol. viii, 1856, p. 93; J. A. N. S., (133) vol. iii, 1857, p. 295, pl. xxv, f. 9; (242) vol. vi, 1866, p. 62; Obs. Gen. Unio, (150) vol. vi, p. 15, pl. xxv, f. 9; (244) vol. xi, p. 66.

U. tumulatus.
T. A. P. S., (27) vol. vi, 1838, pp. 134, 151; Obs. Gen. Unio, (29) vol. ii, pp. 134, 151.

U. turgidulus.
P. A. N. S., (136) vol. x, 1858, p. 40; J. A. N. S., (203) vol. v, 1861, p. 62, pl. v, f. 211; (213) vol. v, 1862, p. 193; Obs. Gen. Unio, (205) vol. viii, p. 66, pl. v, f. 211; (215) vol. ix, p. 15.

Unio turgidus.
T. A. P. S., (27) vol. vi, 1834, p. 11, pl. v, f. 11; 1838, pp. 123, 148; Obs. Gen. Unio, (29) vol. ii, pp. 11, 123, 148, pl. v, f. 11.

U. Turtonii.
T. A. P. S., (27) vol. vi, 1838, p. 132; Obs. Gen. Unio, (29) vol. ii, p. 132.

U. Tuomeyi.
T. A. P. S., (79) vol. x, 1852, p. 256, pl. xiii, f. 4; P. A. P. S., (93) vol. v, 1852, p. 252; J. A. N. S., (148) vol. iv, 1858, pp. 61, 80; (189) vol. iv, 1860, p. 329; (221) vol. v, 1863, p. 444; (242) vol. vi, 1866, p. 21; Obs. Gen. Unio, (83) vol. v, p. 12, pl. xiii, f. 4; (150) vol. vi, pp. 61, 80; (205) vol. viii, p. 11; (222) vol. x, p. 80; (244) vol. xi, p. 25.

U. Tuscumbiensis.
J. A. N. S., (273) vol. viii, 1874, p. 11, pl. iii, f. 7; Obs. Gen. Unio, (275) vol. xiii, p. 15, pl. iii, f. 7.

U. Uhareensis.
J. A. N. S., (258) vol. vi, 1868, p. 304, pl. xlvi, f. 116; Obs. Gen. Unio, (259) vol. xii, p. 63, pl. xlvi, f. 116.

U. umbrans.
P. A. N. S., (127) vol. ix, 1857, p. 104; J. A. N. S., (148) vol. iv, 1858, p. 73; Obs. Gen. Unio, (150) vol. vi, p. 73.

U. umbrosus.
P. A. N. S., (110) vol. viii, 1856, p. 95; (119) vol. ix, 1857, p. 32; (127) vol. ix, 1857, p. 104; J. A. N. S., (133) vol. iii, 1857, p. 311, pl. xxx, f. 26; (168) vol. iv, 1859, p. 246; (203) vol. v, 1861, p. 80; (258) vol. vi, 1868, p. 326; Obs. Gen. Unio, (150) vol. vi, p. 31, pl. xxx, f. 26; (176) vol. vii, p. 64; (205) vol. viii, p. 84; (259) vol. xii, p. 86.

U. undatus.
T. A. P. S., (12) vol. iii, 1829, p. 418; (15) vol. iv, 1831, pp. 111, 118; (20) vol. v, 1833, p. 88; (27) vol. vi, 1834, p. 13; 1838, p. 125; (43) vol. viii, 1840, pp. 216, 231; J. A. N. S., (221) vol. v, 1863, p. 441; Obs. Gen. Unio, (21) vol. i, pp. 32, 121, 128, 200; (29) vol. ii, pp. 13, 125; (44) vol. iii, pp. 54, 69; (222) vol. x, p. 77.

U. undulatus.
T. A. P. S., (12) vol. iii, 1829, pp. 417, 421; (15) vol. iv, 1830, p. 68; (27) vol. vi, 1838, pp. 122, 124, 125, 148; (55) vol. x, 1845, pp. 68, 70; P. A. P. S., (66) vol. v, 1851, p. 192; P. A. N. S., (135) vol. x, 1858, pp. 13, 14; J. A. N. S., (147) vol. iv, 1858, p. 48, pl. v, f. 22; (221) vol. v, 1863, pp. 417, 443; (242) vol. vi, 1866, p. 27; Obs. Gen. Unio, (21) vol. i, pp. 31, 55, 78; (29) vol. ii, pp. 122, 124, 125, 148; (56) vol. iv, pp. 68, 70; (150) vol. vi, p. 48, pl. v, f. 22; (222) vol. x, pp. 53, 79; (244) vol. xi, p. 31.

U. unicolor.
T. A. P. S., (55) vol. x, 1845, p. 74, pl. iv, f. 12; Obs. Gen. Unio, (56) vol. iv, p. 74.

U. uniformis.
T. A. P. S., (27) vol. vi, 1838, pp. 134, 151; Obs. Gen. Unio, (29) vol. ii, pp. 134, 151.

Unio Urii.
T. A. P. S., (27) vol. vi, 1838, pp. 134, 151; Obs. Gen. Unio, (29) vol. ii, pp. 134, 151.

U. Uruguayensis.
P. A. N. S., (176) vol. xii, 1860, p. 90; J. A. N. S., (220) vol. v, 1863, pp. 382, 388, pl. xlv., f. 298; Obs. Gen. Unio, (222) vol. x, pp. 18, 24, pl. xlv, f. 298.

U. utriculus.
T. A. P. S., (55) vol. x, 1845, p. 69, pl. i, f. 3; Obs. Gen. Unio, (56) vol. iv, p. 69, pl. i, f. 3.

U. validus.
J. A. N. S., (273) vol. viii, 1874, p. 6, pl. i, f. 2; Obs. Gen. Unio, (275) vol. xiii, p. 10, pl. i, f. 2.

U. vallatus.
J. A. N. S., (258) vol. vi, 1868, p. 315, pl. l, f. 128; Obs. Gen. Unio, (259) vol. xii, p. 75, pl. l, f. 128.

U. Vanuxemensis.
T. A. P. S., (27) vol. vi, 1836, pp. 28, 36, pl. xi, f. 31; 1838, pp. 127, 148; (55) vol. x, 1845, p. 69; Obs. Gen. Unio, (29) vol. ii, pp. 28, 36, 127, 148, pl. xi, f. 31; (56) vol. iv, p. 69.

U. Vanuxemii.
J. A. N. S., (148) vol. iv, 1858, p. 83; (203) vol. v, 1861, p. 67; (242) vol. vi, 1866, p. 47; Obs. Gen. Unio, (150) vol. vi, p. 83; (205) vol. viii, p. 71; (244) vol. xi, p. 51.

U. variabilis.
T. A. P. S., (27) vol. vi, 1838, pp. 131, 148; J. A. N. S., (220) vol v, 1863, p 381; Obs. Gen. Unio, (29) vol. ii, pp. 131, 148; (222) vol. x, p. 17.

U. varicosus.
T. A. P. S., (12) vol. iii, 1829, p. 424; (15) vol. iv, 1830, p. 9, pl. xi, f. 20; 1831, p. 107; (20) vol. v, 1833, p. 91; (27) vol. vi, 1838, pp. 124, 135, 148; (43) vol. viii, 1841, p. 231; Obs. Gen. Unio, (21) vol. i, pp. 38, 100, 107, 203, pl. xi, f. 20; (29) vol. ii, pp. 124, 135, 148; (44) vol, iii, p. 69.

U. vasus.
J. A. N. S., (242) vol. vi, 1866, p. 55; Obs. Gen. Unio, (244) vol. xi, p. 59.

U. Vaughanianus.
T. A. P. S., (27) vol. vi, 1834, p. 5, pl. iii, f. 5; 1838, pp. 133, 148; Obs. Gen. Unio, (29) vol. ii, pp. 5, 133, 148, pl. iii, f. 5.

U. velum.
T. A. P. S., (27) vol. vi, 1838, p. 133; Obs. Gen. Unio, (29) vol. ii, p. 133.

U. ventricosus.
T. A. P. S., (12) vol. iii, 1829, pp. 409, 411, 419, 436; (15) vol. iv, 1831, p. 119; (27) vol. vi, 1838, pp. 125, 126, 148; J. A. N. S., (159) vol. iv, 1859, p. 224, pl. xxx, f. 107; Obs. Gen. Unio, (12) vol. i, pp. 23, 25, 33, 51, 129; (29) vol. ii, pp. 125, 126, 148; (170) vol. vii, p. 42, pl. xxx, f. 107.

U. Venus.
T. A. P. S., (15) vol. iv, p. 118; (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144;

U. venustus.
T. A. P. S., (27) vol. vi, 1834, p. 4, pl. ii, f. 4; 1838, pp. 127, 148; J. A. N. S., (189) vol iv, 1860, p. 369; Obs. Gen. Unio, (29) vol. ii, pp. 4, 127, 148, pl. ii, f. 4; (205) vol. viii, p. 51.

Unio Veracruzensis.
J. A. N. S., (258) vol. vi, 1868, p. 320, pl. lii, f. 133; Obs. Gen. Unio, (259) vol. xii, p. 80, pl. lii, f. 133.

U. Verreanianus.
P. A. N. S., (110) vol. viii, 1856, p. 94; J. A. N. S., (133) vol. iii, 1857, p. 301, pl. xxvii, f. 16; Obs. Gen. Unio, (150) vol. vi, p. 21, pl. xxvii, f. 16.

U. verrucosus.
T. A. P. S., (12) vol. iii, 1829, pp. 409, 410, 412, 413, 419; (15) vol. iv, 1830, pp. 77, 79; (20) vol. v, 1833, p. 61; (27) vol. vi, 1836, p. 70; 1838, pp. 123, 144, 148; P. A. P. S., (66) vol. v, 1851, p. 192; T. A. P. S., (43) vol. viii, 1841, p. 231; (55) vol. x, 1845. p. 72; J. A. N. S., (221) vol. v, 1863, p. 427; Obs. Gen. Unio, (21) vol. i, pp. 23, 24, 26, 27, 33, 87, 89, 173; (29) vol. ii, pp. 70, 123, 144, 149; (44) vol. iii, p. 69; (56) vol. iv, p. 72; (222) vol. x, p. 63.

U. verrucosus albus.
T. A. P. S., (27) vol. vi, 1838, p. 123; Obs. Gen. Unio, (29) vol. ii, p. 123.

U. verrucosus purpureus.
T. A. P. S., (27) vol. vi, 1838, p. 123; Obs. Gen. Unio, (29) vol. ii, p. 123.

U. verus.
P. A. N. S., (192) vol. xiii, 1861, p. 40; J. A. N. S., (203) vol. v, 1861, p. 83, pl. xi, f. 231; Obs. Gen. Unio, (205) vol. viii, p. 87, pl. xi, f. 231.

U. verutus.
P. A. N. S., (156) vol. xi, 1859, p. 171; J. A. N. S., (189) vol. iv, 1860, p. 335, pl. liii, f. 160; (203) vol. v, 1861, p. 95; Obs. Gen. Unio, (205) vol. viii, pp. 17, 99, pl. liii, f. 160.

U. vesicularis.
J. A. N. S., (273) vol. viii, 1874, p. 37, pl. xii, f. 34; Obs. Gen. Unio, (275) vol. lxi, p. 41, pl. xii, f. 34.

U. vestitus.
P. A. N. S., ((200) vol. xiii, 1861, p. 393; J. A. N. S., (213) vol. v, 1862, p. 189, pl. xxv, f. 259; Obs. Gen. Unio, (215) vol. ix, p. 11, pl. xxv, f. 259.

U. vibex.
T. A. P. S., (27) vol. vi, 1838, pp. 128, 148; Obs. Gen. Unio, (29) vol. 11, pp. 128, 148.

U. vicinus.
P. A. N. S., (116) vol. viii, 1856, p. 262; J. A. N. S., (148) vol. iv, 1858, p. 61, pl. ix, f. 43; (159) vol. iv, 1859, p. 216; Obs. Gen. Unio, (150) vol. vi, p. 61, pl. ix, f. 43; (170) vol. vii, p. 34.

U. violaceus.
T. A. P. S., (27) vol. vi, 1838, p. 130; Obs. Gen. Unio, (29) vol. ii, p. 130.

U. virens.
P. A. N. S., (129) vol. ix, 1857, p. 169; J. A. N. S., (148) vol. iv, 1858, p. 80, pl. xvi, f. 60; Obs. Gen. Unio, (150) vol. vi, p. 80, pl. xvi, fig. 60.

U. vireseens.
P. A. N. S., (136) vol. x, 1858, p. 40; J. A. N. S., (189) vol. iv, 1860, p. 341, pl. lv, f. 166; Obs. Gen. Unio, (205) vol. viii, p. 23, pl. lv, f. 166.

Unio Virginiana.
T. A. P. S., (12) vol. iii, 1829, pp. 415, 416, 425; (20) vol. v, 1833, p. 91; (27) vol. vi, 1838, p. 127; Obs. Gen. Unio, (21) vol. i, pp. 29, 30, 39, 203; (29) vol. ii, p. 127.

U. viridans.
P. A. N. S., (156) vol. xi, 1859, p. 170; J. A. N. S., (189) vol. iv, 1860, p. 337, pl. liv, f. 162; Obs. Gen. Unio, (205) vol. viii, p. 19, pl. liv, f. 162.

U. viridicatus.
P. A. N. S., (129) vol. ix, 1857, p. 170; J. A. N. S., (148) vol. iv, 1858, p. 87, pl. xviii, f. 67; Obs. Gen. Unio, (150) vol. vi, p. 87, pl. xviii, f. 67.

U. viridiradiatus.
P. A. N. S., (154) vol. xi, 1859, p. 154; J. A. N. S., (189) vol. iv, 1860, pp. 336, 338, pl. lii, f. 161; (213) vol. v, 1862, p. 210; Obs. Gen. Unio, (205) vol. viii, pp. 18, 20, pl. liii, f. 161; (215) vol. ix, p. 32.

U. viridis.
T. A. P. S., (27) vol. vi, 1838, pp. 127, 144; Obs. Gen. Unio, (29) vol. ii, pp. 127, 144.

U. viridulus.
J. A. N. S., (242) vol. vi, 1866, p. 10, pl. xiii, f. 7; Obs. Gen. Unio, (244) vol. xi, p. 14, pl. iii, f. 7.

U. vittatus.
T. A. P. S., (27) vol. vi, 1838, p. 144; P. A. N. S., (152) vol. xi, 1859, p. 153; J. A. N. S., (168) vol. iv, 1859, p. 249, pl. xxxviii. f. 128; Obs. Gen. Unio, (29) vol. ii, p. 144; (170) vol. viii, p. 67, pl. xxxviii, f. 128.

U. Waccamawensis.
J. A. N. S., (242) vol. vi, 1866, p. 16, pl. v, f. 14; Obs. Gen. Unio, (244) vol. xi, p. 20, pl. v, f. 14.

U. Wardii.
P. A. N. S., (200) vol. xiii, 1861, p. 392; J. A. N. S., (213) vol. v, 1862, p. 187, pl. xxiv, f. 257; Obs. Gen. Unio, (215) vol. ix, p. 9, pl. xxiv, f. 257.

U. Watereensis.
T. A. P. S., (27) vol. vi, 1838, pp. 130, 148; Obs. Gen. Unio, (29) vol. ii, pp. 130, 148.

U. Weldonensis.
J. A. N. S., (242) vol. vi, 1866, p. 11, pl. iii, f. 8; Obs. Gen. Unio, (244) vol. xi, p. 15, pl. iii, f. 8.

U. Wheatleyanus.
P. A. N. S., (110) vol. viii, 1856, p. 94; J. A. N. S., (133) vol. iii, 1857, p. 308, pl. xxix, f. 23; (168) vol. iv, 1859, pp. 267, 272; Obs. Gen. Unio, (150) vol. vi, p. 28, pl. xxix, f. 23; (170) vol. vii, pp. 85, 90.

U. Wheatleyi.
P. A. N. S., (123) vol. ix, 1857, p. 85; (127) vol. ix, 1857, p. 104; J. A. N. S., (203) vol. v, 1861, p. 54; Obs. Gens. Unio, (205) vol. viii, p. 58.

U. Whiteianus.
T. A. P. S., (79) vol. x, 1852, p. 258, pl. xiv, f. 8; P. A. P. S., (93) vol. v, 1852, p. 252; J. A. N. S., (148) vol. iv, 1858, p. 91; (213) vol. v, 1862, p. 200; Obs. Gen. Unio, (83) vol. v, p. 14, pl. xiv, f. 8; (150) vol. vi, p. 91; (215) vol. ix, p. 22.

Unio Wilsonii.
P. A. N. S., (152) vol. xi, 1859, p. 153; J. A. N. S., (168) vol. iv, 1859, p. 256, pl. xl, f. 137; (242) vol. vi, 1866, p. 61; Obs. Gens. Unio, (170) vol. vii, p. 74, pl. xl, f. 137; (244) vol. xi, p. 65.

U. Woodwardianus.
J. A. N. S., (147) vol. iv, 1858, pp. 45, 47, pl. v, f. 16; (159) vol. iv, 1859, pp. 191, 199, 219, pl. xxiii, f. 82, pl. xxix, f. 103; (203) vol. v, 1861, p. 87; (221) vol. v, 1863, pp. 443, 444; Obs. Gen. Unio, (150) vol. vi, pp. 45, 47, pl. v, f. 16; (170) vol. vii, pp. 9, 17, 37, pl. xxiii, f. 82, pl. xxix, f. 103; (205) vol. viii, p. 91; (222) vol. x, pp. 79, 80.

U. Woodwardius.
P. A. N. S., (129) vol. ix, 1857, p. 170.

U. Wrightii.
P. A. N. S., (234) vol. xvii, 1865, p. 75; J. A. N. S., (257) vol. vi, 1868, p. 283, pl. xxxix, f. 97; Obs. Gen. Unio, (259) vol. xii, p. 43, pl. xxxix, f. 97.

U. Wymanii.
P. A. N. S., (176) vol. xii, 1860, p. 90; J. A. N. S., (220) vol. v, 1863, pp. 381, 389, pl. xlii, f. 289; Obs. Gen. Unio, (222) vol. x, pp. 17, 25, pl. xlii, f. 289.

U. Wynegungaensis.
P. A. N. S., (165) vol. xi, 1859, p. 331; J. A. N. S., (168) vol. iv, 1859, pp. 271, 272, pl. xlv, f. 151; Obs. Gen. Unio, (170) vol. vii, pp. 89, 90, pl. xlv, f. 151.

U. Yadkinensis.
J. A. N. S., (273) vol. viii, 1874, p. 32; Obs. Gen. Unio, (275) vol. xiii, p. 36, pl. x, f. 29.

U. Zeiglerianus.
T. A. P. S., (27) vol. vi, 1836, p. 32, pl. x, f. 27; 1838, pp. 128, 148; Obs. Gen. Unio, (29) vol. ii, pp. 32, 128, 148, pl. x, f. 27.

U. zigzag.
T. A. P. S., (12) vol. iii, 1829, pp. 409, 411, 412, 421, 440, pl. xii, f. 19; (15) vol. iv, 1830, pp. 82, 83; (27) vol. vi, 1838, pp. 124, 148; P. A. N. S., (115) vol. viii, 1856, p. 213; (135) vol. x, 1858, p. 14; J. A. N. S., (189) vol. iv, 1860, p. 369; (221) vol. v, 1863, p. 430; Obs. Gen. Unio, (21) vol. i, pp. 23, 25, 26, 35, 54, 92, 93, pl. xii, f. 19; (29) vol. ii, pp. 124, 148; (205) vol. viii, p. 51; (222) vol. x, p. 66.

U. zonalis.
T. A. P. S., (27) vol. vi, 1838, p. 144; Obs. Gen. Unio, (29) vol. ii, p. 144.

Valvata arenifera.
T. A. P. S., (15) vol. iv, 1830, p. 104, pl. xv, f. 36, *a*, *b*; (20) vol. v, 1832, p. 27; Obs. Gen. Unio, (21) vol. i, pp. 114, 139, pl. xv, f. 36, *a*, *b*.

V. bicarinata.
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